AMERICAN GAS ASSOCIATION MONTHLY

Vol. VI No. 8

AUGUST, 1924

THREE things are necessary: first, backbone; second, backbone; third, backbone.

—*Charles Sumner*

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FOR STATEMENTS AND OPINIONS CONTAINED IN PAPERS AND DISCUSSIONS APPEARING HEREIN, THE ASSOCIATION DOES NOT HOLD ITSELF RESPONSIBLE

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American Gas Association Monthly

Vol. VI AUGUST, 1924 No. 8

The Summer Slump?

There has been for some years a superstition among a great many business men that with the coming of hot weather there is bound to follow a decided slump in business.

Possibly the beginning of this superstition or illusion, if you will, was like unto some of those others long cherished by mankind. For some 2000 years man believed that the earth was flat. A thousand years ago disease was caused by some evil spirit that took possession of the body. Within the memory of some of us, tomatoes were considered deadly poison.

And so it goes.

Every race, every civilization, every generation and every undertaking carries some illusion common to the majority of people.

Business is no exception in general and the gas business in particular.

Such a superstition or illusion is that there is always a decided slump in business in the summer—when the weather gets hot.

But, in fact, this is only half the truth.

Federal Reserve Bank Reports show that the **total** volume of business falls off but slightly during this period. And more than that. From investigations carefully made it is shown that forty-four lines of business are from 1 per cent to 28 per cent above normal during June, July and August, and twenty-four lines have their peak months during the hot season.

Some of these latter are: Lumber, Building Materials, Varnish, Electric Wire, Paints, Toilet Goods, Groceries, Sash and Doors, Barn Equipment. All directly or indirectly connected with the home.

Then why cannot the gas industry be included among them? No industry is more closely connected with present home life. If it is because the gas man still clings to the inevitable "summer slump" illusion it is about time that he became disillusioned.

The "summer slump" should not have a place in any gas man's life even for an instant.

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Julius H. Barnes Discusses Spirit of Individual Initiative and Enterprise in America

AN INTERESTING VIEWPOINT of the genius of American organization, based upon individual attainment, as opposed to governmental ownership and control, was presented by Julius H. Barnes in his annual address as President of the Chamber of Commerce of the United States at the recent Cleveland convention.

Commenting upon the session of Congress, he referred to the "discussion * * * which proposes a violation of the American tradition of private initiative and private enterprise under which our whole material progress has been achieved; proposing that government itself shall buy and sell and manufacture certain commodities under a theory of artifically maintaining price relations."

Mr. Barnes made a comparison between American and foreign telephone service and after emphasizing the fact that "government ownership of public utilities is not the proper reliance for the protection of the public interest," he said:

"When our people read that in this great new and sparsely settled country the United States has 13 telephones per 100 people, while Great Britain has 2, there is a natural inquiry which must be answered: Why should they, if their political philosophy and social practices are so similar, differ so radically in the general use of such a ready agency of earning power and social facility? Does it not lie in the fact that the telephones and telegraphs of Great Britain are government-operated, while in America, with American resourcefulness we have developed a new policy of regulation which protects the general public, but regulation generous and fair enough to attract into this regulated industry this same driving power and resourcefulness which goes into the field of private industry?

"It is increasingly necessary," continued Mr. Barnes, "that our people should understand the peculiarly American methods and influences which have achieved the material leadership of America. American living standards, which have become the envy and despair of the world, neither create themselves nor maintain themselves, but are the result of stimulants in our national philosophy which must be properly appraised, valued and preserved. The American people are competent to appreciate the story and to value the underlying influences. Moreover, there is much to fix the American imagination on the

fact that this political experiment of a free people is timed with the evolution of the service of power energy to the processes of industry on which our whole material achievement has been erected.

"In 1782, when this Republic was recognized, the total wealth of the world after forty centuries of accumulated effort had reached the estimated aggregate of $100,000,000,000. In the 142 years next succeeding the estimated wealth of the world has risen sharply to $1,000,000,000,000. That period of increased wealth creation, the aggregate of individual possession and attainment, marks also the era of man's mastery over the power secrets of nature, beginning with the discovery of steam generation in 1781.

"Manifestly the crude power aids of that forty centuries, the wind mill, the tide mill, the water wheel, provided only a narrow margin over the bare requirements of existence. Manifestly also, the enlargement of each worker's productive effort by the power appliances of recent years has greatly stimulated the margin of productive accumulations beyond living requirements. Manifestly also, this increased margin of production has been the basis of the steadily widening equipment of the American home.

"A few items of comparison between 1781, before the harnessing of steam to enlarge human effort, and 1923, tells this story of productive capacity so clearly that every school child may comprehend its service.

"The production per day per man in standard necessities runs from 1781 to 1923 as follows:

In iron the production rose from 500 pounds to 5,000 pounds.

In lumber from 100 feet to 750 feet.

In nails from 5 pounds to 500 pounds.

In shoes from ¼ pair to 10 pairs.

In coal from ½ ton to 4 tons.

In paper from 20 square feet to 200,000 square feet.

"Or one may visualize how impossible of attainment the present vast complex and perfected social progress of America would be, except for successive advances in invention, in industrial methods and practices, in social and living facilities, carrying forward continuously the economy of human effort, by picturing the transportation of today resolved back to the methods of early days. For example, the Class One railroads of America attained last year a movement of commodities aggregating 423,000,000,000 ton miles with 1,800,000 employees. This volume of goods moved under the transportation methods of 1781 would have required 70,000,000 drivers and 140,000,000 horses,—manifestly an impossible condition.

"Behind this record of increased production per worker and thus the vast enlargement of articles to divide among the homes of America and to swell the individual possession and use, lies the whole justification of America's industrial philosophy. Our whole national history shows that this increased production per worker does not release workers to unemployment, but that this method stimulates the expansion of old industries and the establishment of new ones with a security of earning opportunity for every worker."

After emphasizing the importance of public education as to the evils of government ownership by American business leaders, Mr. Barnes said:

"In the same way organized business must make clear that its opposition to Government ownership and operation in the field of private effort rests on the same profound truth that this advance in living standards and human opportunity is checked and undermined when the lethargy of Government politics replaces the driving force of private initiative and private enterprise.

"These are profound truths which the American public is perfectly able to comprehend when presented by logic and conviction. Too long, organized business has allowed itself to be represented as holding these opinions solely in the selfish protection of business earnings, instead of making clear that on these truths rests the whole field of opportunity for coming generations of American youth."

The Executive Board of the
American Gas Association
at a Meeting in New York City on December 19th, 1923, unanimously adopted the following Minute:

This Board has received with deep regret but with full appreciation of the circumstances attending its presentation, the
RESIGNATION OF
Colonel Oscar H. Fogg
Secretary-Manager.

So pronounced was the desire to secure Colonel Fogg for the position of Secretary-Manager that the place was held for several months after the general organization of the Association, awaiting his return from service in the American Expeditionary Force, where he had made
An Exceptionally Meritorious and Conspicuous Record.

In accepting the appointment he stated that the opportunities open to him in several large business enterprises were of such a nature that he felt he could not serve for a longer period than two years. His deep interest, however, in thoroughly organizing the work entrusted to him, coupled with the earnest solicitation of the members of the Executive Board resulted in extending the period to more than twice the time originally contemplated. He now retires to accept such a business opportunity, after a full and frank discussion of the subject with members of this Board and with their entire concurrence in the belief that he is taking the wise and proper course, in justice to his own future.

The details of study and experience embraced in Colonel Fogg's career, following the termination of his early scholastic training in various educational institutions, will be found recorded in the annals of the gas industry. They constituted, at the time of his entry upon the work of the Association, a remarkable preparation for the task he then undertook. When his selection was announced it was stated by those clothed with authority to engage him, that he had been chosen because he was believed to be a man equipped with a thorough knowledge of all aspects of the industry; and, speaking for its Executive Board, they added with confidence, all is with the satisfaction of a duty fully performed that our choice is presented to the gas industry as a whole.

The results have amply justified their action. The universal recognition that has been accorded Colonel Fogg's broad conception of the character and purpose of the Association's manifold activities and the manner in which its affairs have been directed, constitutes in itself a testimonial of which any man might well be proud. His exceptional executive ability, tact, and fine sense of proportion, have been constantly reflected in the work of the Headquarters Staff, in the activities of the Sections, and in the encouragement of cooperation with allied bodies. The American Gas Association, today, due in no small degree to his unwearied efforts, occupies a commanding position.

In the passing of the years the period through which he has served is not a long time, but it is amply long to have afforded occasion for many mistakes, disastrous errors of judgment and misconceptions of the relation of the position to the Association and to the industry. It can be said of Colonel Fogg that as critical survey of his administration fails to disclose any act of his that did otherwise than advance the interests of the Association, enhance its standing before the public and realize in full measure the high hopes of all who have had a part in its inception and development.

Added to the notable results thus achieved, has been the influence exerted through those personal qualities that have won for him not only the respect but the affectionate regard of the entire membership of the Executive Board and of large numbers engaged throughout the industry with whom he has come into close contact in the eventful years during which he has held the place from which he now retires.

In formally accepting Colonel Fogg's resignation as Secretary-Manager, we spread upon our Minutes
This Recognition of Ability, Fidelity and Public Service,
and extend to him in his new field of duty our best wishes for his continued happiness and prosperity.

It is further directed that an illuminated copy of this Minute be prepared and submitted to individual members of the Board for their signatures, and delivered to Colonel Fogg.

Directors

The Minute Adopted by the Executive Board on the Resignation of Col. Oscar H. Fogg as Secretary-Manager

Do You Know Them?

WE MIGHT SAY,—adapting the vernacular of the times,—what is wrong with these pictures?

The present day gas man could readily pick the flaws in the picture to the right because he would know instantly what it represented. Yes, a meter setter. But of some fifty years ago.

In those days imagine this man's job. Starting out in the morning, since the company had no horses or wagons or autos for delivering meters, it was necessary for the meter setter to suspend with a cord from his shoulders and his back as many meters, with their lead connections and the wooden meter shelves, as he could possibly carry. And in addition he had his tools to transport in the same manner. He literally had meters hanging all over him. And he frequently came back to the shop laden again with as many meters that had been removed during his rounds.

But the picture to the left might puzzle a good many of us.

The subject was described by the late George Beadinkopf somewhat as follows—

"My very earliest recollection of anything connected with the gas industry of Baltimore is when, as quite a small boy fifty years ago, I used to see a tall, thin, long-legged man, dressed in black clothes, with long, black side whiskers, who carried a big black can with a spout like a watering pot, coming with long strides through the street where I lived in Old Town, and going in and out of people's cellars. As a small boy, I looked upon this man with a certain amount of fear; he reminded me of a huge black wasp, whose long legs seemed just fitted for his work of investigating the cellars, but I never knew who he was and what was his business until years afterward, when

I had become a man and had entered the gas business myself."

Maybe you have guessed who he was. His business was to fill up the wet meters, which were then in use, with water, to their proper working level. And in cold weather he "whiskeyed" the meters —poured whiskey in them to prevent freezing. Possibly on very cold days some of the whiskey may have gone to warm him instead.

✣ ✣ ✣

A. G. A. Representation on Sectional Committees of American Engineering Standards Committee

Code for Lighting Factories, Mills and Other Work Places—W. J. Serrill, The United Gas Improvement Co., Philadelphia, Pa.

Identification of Piping Systems—H. E. Bates, The Peoples Gas Light & Coke Co., Chicago, Illinois.

Safety Code for Mechanical Refrigeration—R. S. Doull, Consolidated Gas Co. of New York, New York, N. Y.

Pipe Flanges and Fittings—H. L. Underhill, Bartlett-Hayward Co., Baltimore, Md.

Code on Protection Against Lightning—W. C. Beckjord, American Light & Traction Co., New York, N. Y.

Gas Safety Code—W. R. Addicks, Consolidated Gas Company of New York, New York, N. Y.
E. H. Earnshaw, Public Service Gas Company, Newark, N. J.
R. G. Griswold, Cities Service Co., New York, N. Y.
A. H. Hall, Cambridge Gas Light Co., Cambridge, Mass.
W. J. Serrill, The United Gas Improvement Co., Philadelphia, Pa.

Illuminating Engineering Nomenclature and Photometric Standards—W. J. Serrill, The United Gas Improvement Co., Philadelphia, Pa.

Safety Code Correlating Committee—W. R. Addicks, Consolidated Gas Co. of New York, New York, N. Y.
Donald McDonald, American Meter Co., New York, N. Y.—Alternate.

Code for Lighting School Buildings—R. H. Maurer, Consolidated Gas Company of New York, New York, N. Y.

Electrical Safety Code—Part 1 and 3 and Section 9—W. C. Fisher, Northern Westchester Lighting Co., Ossining, N. Y.
Parts 2 and 4—C. C. Simpson, Jr., Consolidated Gas Co. of New York, New York, N. Y.

Safety Code for Industrial Sanitation—C. C. Winterstein, The U. G. I. Contracting Co., Philadelphia, Pa.

Affiliated Association Notes

Eastern States Gas Conference

A meeting of the Executive Board was held in Newark, N. J., on July 10 with the President, P. S. Young, presiding. It was decided that the next annual conference should be held in April, 1925, and be of two days' duration. The recommendation of the Board that the Conference be held in Newark, N. J., is to be referred to the Time and Place Committee. It was decided that the following committees should be formed and the appointments of their respective chairmen approved:

Auditing Committee, Chairman, L. Stoecker.
Nominating Committee, Chairman, H. S. Schutt.
Time and Place Committee, Chairman, H. D. Whitcomb
Entertainment and Arrangement Committee, Chairman, W. Halsey.
Publicity Committee, Chairman, Harlow Clark.
Development Committee, Chairman, J. L. Conover.
Resolution and Revision of Articles of Agreement Committee, Chairman, B. H. Atwood.
Papers Committee, Chairman, F. W. Schmidt.
Educational Committee, Chairman, W. G. Gribbel

Gas Sales Association of New England

This Association held its first outing at Lynnfield, Mass., on June 13. The outing committee, consisting of H. J. Pettengill, Jr., Chairman; J. J. Quinn, A. E. Norton, Wm. Gould, assisted by E. J. Cooney, C. T. Aaron, L. W. Geffine and F. F. Capen, arranged and carried out a program which provided amusement for all the 124 who attended. The affair was such a success in getting the members better acquainted there is but little doubt that an outing will be a regular item on the yearly program of this Association.

New Jersey Gas Association

The anouncement has been made that the Mid-Summer Meeting will be held at the Yacht Club, Ocean City, N. J., on Friday, September 12. There will be a short business meeting, shore dinner and plenty of amusements in the way of yachting, swimming and other aquatic sports. The ladies are invited to this meeting. Reservations should be made early as the mid-summer meetings of this Association have a fine reputation. Send reservations to the Secretary, R. A. Koehler, Public Service Gas Company, Newark, N. J.

It has been decided to hold the annual meeting of the New Jersey Gas Association in Newark sometime during January, 1925.

Affiliated Association Notes

Canadian Gas Association

Mr. George W. Allen, Secretary-Treasurer of this Association, promises that their convention to be held in Toronto on August 28 and 29 will be a real convention. The first day's session will be held in the fine new spacious club house of the Royal Canadian Yacht Club, Toronto Island. The steamer of the Royal Canadian Yacht Club will leave the Yonge Street Wharf on Bay front at 9:15 and 9:45 a. m., and periodically thereafter for the Club.

The first session will open at 10:15 a. m. followed by a luncheon at 1 p. m. in the Yacht Club. The entertainment features provided are fine, including a concert by the Pageant Chorus of 2,000 voices. Ample time will be arranged for visiting the Canadian National Exhibition.

The papers and reports to be presented are as follows: "Our Experience with Tulley Gas at Belleville," Wm. Harden; "The Industrial Fuel Situation," F. F. Cauley; "Description of Manufactured Gas Plant for Iroquois Gas Corporation, Buffalo, N. Y.," J. S. De Hart, Jr.; "Machinery in the Distribution Department of a Gas Company," E. S. Stanton; "Recent Gas Manufacturing Developments at Rochester, N. Y.," W. H. Earle; "Plotting Relative Costs of Fuels," R. O. Wynne-Roberts; "Progress to Date on House Heating with Gas Fuel," H. E. G. Watson and Reports of representatives on American Gas Association sectional managing committees.

Southern Gas Association

The Executive Committee held a meeting at the Southern Hotel, Baltimore, Md., on June 12, 1924. Arrangements for the Gas Engineering Course at Johns Hopkins University, sponsored by the Southern Gas Association were discussed at length. A Junior Class of membership at a cost of $2.50 per year with 25 years as the age limit was authorized by the Committee. Junior members will be entitled to all privileges of senior members and should receive a copy of the Proceedings.

The first number of a bulletin to be published from time to time as required has been issued. It is a seven-page publication 6" by 9" in size and contains news items of particular interest to the members of this Association.

The Seventeenth Annual Convention of the Southern Gas Association, it has been decided, will be held at Wilmington, N. C., on June 9, 10 and 11, 1925.

Missouri Association of Public Utilities

The 1924 Proceedings of this Association have been published. Their Annual Convention was held in April at Kansas City, Missouri. The Secretary, Mr. F. D. Beardslee, is to be congratulated on the promptness in which the proceedings were issued and also on the attractiveness of the volume. It is a book of 174 pages containing the proceedings of the convention as well as the following: Important Missouri Public Service Commission decisions, court decisions, important new legislation, membership roll, list of those in attendance at convention and numerous advertisements.

Reports of Committees on Nominations of Officers

Nominations for officers of the American Gas Association for next year have been made by the various committees and reported as follows. These nominations will be considered and passed upon in the General and Sectional meetings in Atlantic City in October:

General Nominations

For President: Harry C. Abell, New York, N. Y.
For Vice-President: Charles L. Holman, St. Louis, Mo.
For Treasurer: H. M. Brundage, New York, N. Y.
For Members of Executive Board to serve two years:

D. D. Barnum, Boston, Mass.
R. B. Brown, Milwaukee, Wisc.
Howard Bruce, Baltimore, Md.
M. B. Daly, Cleveland, Ohio
Henry L. Doherty, New York, N. Y.
Oscar H. Fogg, Baltimore, Md.
Charles A. Munroe, St. Louis, Mo.
D. J. Young, Tacoma, Wash.

Sectional Nominations

Accounting Section

For Chairman: H. C. Davidson, Consolidated Gas Co. of New York, New York, N. Y.

For Vice-Chairman: DeWitt Clinton, Worcester Gas Light Co., Worcester, Mass.

Commercial Section

For Chairman: J. P. Hanlan, Public Service Gas Co., Newark, N. J.

For Vice-Chairman: J. B. Myers, The United Gas Improvement Co., Philadelphia, Pa.

Industrial Gas Section

For Chairman: H. O. Loebell, Combustion Utilities Corp., New York, N. Y.

For Vice-Chairman: F. F. Cauley, The Peoples Gas Light & Coke Co., Chicago, Ill.

Manufacturers Section

For Chairman: Wendell L. Smith, A-B Stove Co., Battle Creek, Mich.

For Vice-Chairman: Watson Derwent, Geo. D. Roper Corp., Rockford, Ill.

Publicity and Advertising Section

For Chairman: Frank LeRoy Blanchard, Henry L. Doherty & Co., New York, N. Y.

For Vice-Chairman: Arthur W. Hawks, Jr., Consolidated Gas, Electric Light & Power Co., Baltimore, Md.

Technical Section

For Chairman: Geo. H. Waring, Powers Theatre Bldg., Grand Rapids, Mich.

For Vice-Chairman: R. C. Cornish, American Gas Co., Philadelphia, Pa.

$100 Reward

THE WINCHESTER (Virginia) Gas & Electric Light Company informs us that they, too, like the Counties Gas & Electric Company of Philadelphia, are carrying newspaper advertisements offering a reward for tampering with meters or stealing gas.

The ad, as it appeared in the Winchester Evening Star, read—

$100 REWARD

Will be paid for information leading to the arrest, and resulting in conviction, of any person or persons maintaining an illegal and unauthorized connection with the gas mains of this company, or procuring our gas service by other means than through a company's meter. Informant's identity will not be revealed, and information will be treated as confidential.

W. G. & E. L. CO.
By W. A. Ryan, Treas.

This company also carries messages to the consumer on the back of the gas bill. As a sample of these, we quote the following one—

HERE'S THE USE

Of an efficient, well-organized kitchen. If you have servants and try never to soil your fingers washing dishes or cooking food, well enough; what's the use? Let 'em go on using coal in an ancient iron range already coated with the grease and dirt of two decades of carelessness. Don't stick your dainty nose inside that hot, smelly, unsanitary kitchen. If you did, perhaps you wouldn't be able to eat the delicacies that Dinah serves so toothsomely in your immaculate dining room at your spotless board.

You don't need to know anything about the waste and the expense and the dirt if you have plenty of money and lots of time for everything except the heart of the home where health lies—the kitchen.

But! And it's a big but. If you can't have servants, either because you can't afford them, or because you can't stand for their dirt, their impudence, their dishonesty or their unreliability; and if you have your heart in the heart of your home, then you ought to give as much study to its organization as your husband does to his office. For instance, he has a filing cabinet wherein he keeps his correspondence immediately to his hand, instantly useful. Why don't you have a kitchen cabinet? It's just as useful, just as necessary. He has an adding machine, perhaps; a typewriter certainly—why don't you have a fireless gas range? As the typewriter and adding machine are to the pen and pencil, so is a fireless gas range to a "cook stove," or an ordinary gas range. Your husband probably has a cash register in his office; needs it to control his cash. You need an efficient hot-water plant to control the health of your family. Instant hot water, day and night, with a ..... Hot-Water Storage System makes for the preservation of the health and comfort of every member of your family.

Women who, either from preference or from necessity, are compelled to do the family wash, should have a water heater, a washing machine and a gas clothes dryer and mangle.

A home equipped with a kitchen cabinet, a ..... Fireless Gas Range, a Storage-Type Water Heater, a Clothes Dryer, and a gas mangle and gas iron is

a home emancipated from drudgery and back-breaking labor, a home wherein health preserved prolongs harmony, a home where economy is reduced to the scientific basis of saving the last possible penny in operating costs.

That's the use! Consult our household engineer—let him tell you how.

Japanese Gas Company Becomes Company Member

Association Headquarters has recently received the membership application of The Kobe Gas Company, Ltd., of Kobe, Japan.

Their letter of transmittal states in part:

"As will be noted, owing to the far-off distance, I feel that our office is placed somewhat in an inconvenient location to utilize all the privileges as the company member, but I am sure the service and literature to be supplied by your Association will be worth this enrolment."

Kobe is on the eastern coast of the island of Hondo and about 275 miles from Tokyo. It is a port and coaling station with a harbor that is both deep and capacious, ranking first among Japanese ports both in number of ships and in volume of trade. The population of Kobe is some 378,000, comparing in size, therefore, with such cities as Cincinnati, Indianapolis, Kansas City (Mo.), Minneapolis and New Orleans.

The Kobe Gas Company is one of the largest gas companies in Japan, their yearly sales amounting to 1,339,661 yen, equivalent to $540,888 yearly sales of gas.

GENERAL

CHAIRMEN OF GENERAL COMMITTEES ORGANIZED TO DATE

Accident Prevention—F. W. Fisher, Rochester, N. Y.
Amendments to Constitution—Wm. J. Clark, Mt. Vernon, N. Y.
American Engineering Standards Committee, Representative on—A. H. Hall, Cambridge, Mass. —(Alternate Representative) W. J. Serrill, Philadelphia, Pa.
Award of Beal Medal—J. B. Klumpp, Philadelphia, Pa.
Chamber of Commerce—R. B. Brown, Milwaukee, Wis.
Cooperation with Educational Institutions—W. G. Gribbel, Philadelphia, Pa.
Customer Ownership—Chas. A. Munroe, Chicago, Ill.
Education of Gas Company Employees—B. J. Mullaney, Chicago, Ill.
Entertainment—Wm. J. Clark, Yonkers, N. Y.
Finance—James Lawrence, New York, N. Y.
Gas Code—W. R. Addicks, New York, N. Y.
Gas Standards and Service—R. B. Harper, Chicago, Ill.
National Fire Protection Association—R. S. Doull, New York, N. Y.
Nominating—H. A. Norton, Boston, Mass.
Rate Fundamentals—H. M. Brundage, New York, N. Y.
Representation on National Joint Committee of Public Utility Associations—D. D. Barnum, Boston, Mass.; R. B. Brown, Milwaukee, Wis.; H. L. Doherty, New York, N. Y.; A. Forward, New York, N. Y.; C. H. Geist, Philadelphia, Pa.; J. B. Klumpp, Philadelphia, Pa.; A. P. Lathrop, New York, N. Y.; Chas. A. Munroe, Chicago, Ill.; Wm. L. Ransom, New York, N. Y.
Simplified Practice—C. T. Aaron, Boston, Mass.
Standard Gas Appliance Specifications—W. T. Rasch, New York, N. Y.
United States National Committee of International Commission on Illumination, Representatives on—Howard Lyon, Gloucester, N. J.; E. H. Earnshaw, Newark, N. J.; G. G. Ramsdell, New York, N. Y.

Program of Business Sessions*

Sixth Annual Convention

Atlantic City, October 13-17, 1924

GENERAL SESSIONS PROGRAM

(Convention Hall—Ocean end of Steel Pier)

Tuesday morning—October 14, 10:00 o'clock

Opening Remarks	President J. B. Klumpp, The United Gas Improvement Company, Philadelphia, Pa.
Report	Secretary-Manager Alexander Forward
Report	Membership Election of Active (individual) Members
Report	Treasurer H. M. Brundage, Consolidated Gas Co. of New York, New York, N. Y.
Address	President J. B. Klumpp,
Report	Amendments to Constitution and By-Laws Committee Wm. J. Clark, Chairman, Westchester Lighting Company, Yonkers, N. Y.

*This program is tentative and subject to change and revision.

Report	Nominating Committee, H. A. Norton, Chairman, Nathaniel Tufts Meter Works, Boston, Mass.
Election	
Report	Time and Place Committee (1925 Meeting)
Address	(Title to be announced.) Samuel Insull, President, The Peoples Gas Light & Coke Company, Chicago, Ill. (For the Accounting Section)
Address	"Humanizing A Gas Company" Miss M. E. Dillon, Manager, Brooklyn Borough Gas Company, Coney Island, N. Y. (For the Publicity and Advertising Section)

EXECUTIVE SESSION

(Only Company Member Delegates Eligible to Attend)

Election of Company Members

Election of Directors

Election of 1925 Nominating Committee

Election of Committee on Resolutions

Wednesday morning—October 15, 10:00 o'clock

Report	"Standardization of Gas Appliance Specifications" W. T. Rasch, Chairman, The A. H. Wolff Gas Radiator Co., New York, N. Y.
Address	"Marketing Utility Service" Dr. Paul W. Ivey, Professor of Marketing, University of Nebraska Merchandising Investigator, Lecturer and Counselor
Report	"Education of Gas Company Employees" B. J. Mullaney, Chairman, The Peoples Gas Light & Coke Company, Chicago, Illinois.
Address	"House Heating" Charles A. Munroe, Chairman of the Board, Laclede Gas Light Company, St. Louis, Mo. (For the Commercial Section)

Report — "Co-operation with Educational Institutions"
W. Griffin Gribbel, Chairman,
John J. Griffin & Company,
Philadelphia, Pa.

PUBLIC RELATIONS SYMPOSIUM

(Vernon Room, Haddon Hall)

Entertainment by the Madrigal Singers of Philadelphia

Wednesday evening—October 15, 9:00 o'clock

Address — "Customer Ownership—What It Has Accomplished So Far; Along What Lines Can It be Extended, and How Can Its Fullest Benefits be Realized by the Utilities"
Martin J. Insull, Vice President,
Middle West Utilities Company,
Chicago, Illinois.

Address — "Public Relations in Baltimore"
C. M. Cohn, Vice President,
Consolidated Gas Electric Light & Power Co.,
Baltimore, Maryland.

Address — (Title to be announced.)
By a Public Service Commissioner to be announced.

Public Award of Service Medals

Thursday morning—October 16, 10:00 o'clock

Report — "Accident Prevention"
F. W. Fisher, Chairman,
Rochester Gas & Electric Corporation,
Rochester, N. Y.
(Followed by demonstration of resuscitation)

Address — "What's Coming in the Heating Field"
Floyd Parsons,
Gas Age-Record,
New York, N. Y.
(For the Industrial Gas Section)

Report — "Customer Ownership"
Charles A. Munroe, Chairman,
Laclede Gas Light Company,
St. Louis, Mo.

Address	"Research" Dr. E. R. Weidlein, Mellon Institute, Pittsburgh, Pa. (For the Technical Section)
Address	(Title and speaker to be announced.) (For the Manufacturers' Section)
Closing Remarks	

ACCOUNTING SECTION PROGRAM

(Vernon Room, Haddon Hall)

Tuesday afternoon—October 14, 2:00 o'clock

Opening Remarks and Report of Chairman	W. A. Sauer, The Peoples Gas Light & Coke Co., Chicago, Ill.
Report	Nominating Committee, J. W. Heins, Chairman, The United Gas Improvement Co., Philadelphia, Pa.
Election	
Address	"Why Statistics" Floyd Parsons, Gas Age-Record, New York, N. Y.
Report	Committee on Analysis of Gas Company Statistics, H. J. LaWall, Chairman, The United Gas Improvement Co., Philadelphia, Pa.
Report	Budget Committee, F. H. Patterson, Chairman, Rochester Gas & Electric Corpn., Rochester, N. Y.

Wednesday afternoon—October 15, 2:00 o'clock

Report	Committee on Relations with Customers, De Witt Clinton, Chairman, Worcester Gas Light Company, Worcester, Mass. 1. Customer and Employe Partnership in Public Utilities as it Relates to Security Holders Records. E. MacMorris, The United Gas Improvement Co., Philadelphia, Pa.

2. Errors—Their Correction and Prevention,
J. M. Roberts,
The Peoples Gas Light & Coke Co.,
Chicago, Ill.

3. Improving Public Relations through Employees Calling at Customers Premises,
W. H. Barton,
Portland Gas & Coke Co.,
Portland, Ore.

4. Welfare of Employees as Affecting Relations with Customers,
O. F. Potter,
Public Service Gas Co.,
Newark, N. J.

Thursday afternoon—October 16, 2:00 o'clock

Report — Committee on Uniform Classification of Accounts,
W. J. Meyers, Chairman,
United Electric Light & Power Co.,
New York, N. Y.

Report — Insurance Committee,
J. G. Reese, Chairman,
Consolidated Gas, Electric Light & Power Co.,
Baltimore, Md.

Paper — "The Gas Company Printing Bill"
R. A. Pettingill,
Boston, Mass.

Report — Committee on Customers Accounting,
H. F. Frey, Chairman,
Allentown-Bethlehem Gas Co.,
Allentown, Pa.

Report — Committee on State Representatives,
A. L. Tossell, Chairman,
The Peoples Gas Light & Coke Co.,
Chicago, Ill.

COMMERCIAL SECTION PROGRAM

(Convention Hall—Ocean End of Steel Pier)

Tuesday afternoon—October 14, 2:00 o'clock

Opening Remarks — Chairman, J. E. Davies,
The Peoples Gas Stores, Inc.,
Chicago, Ill.

Report	Nominating Committee, A. P. Post, Chairman, American Gas Company, Philadelphia, Pa.
Election	
Address	Chairman, J. E. Davies
Paper	"Development of Present and New Markets" Robert E. Ramsay, Vice-President, James F. Newcomb & Co., New York, N. Y.
Paper	"The Campaign Method of Merchandising" R. J. Canniff, Sales Promotion Dept., Central Hudson Gas & Electric Co., Poughkeepsie, N. Y.
Paper	"Home Service" (Cultivating public appreciation and building gas sales) Miss Ada Bessie Swann, Supt., Home Economics Dept., Public Service Gas Co., Newark, N. J.

Wednesday afternoon—October 15, 2:00 o'clock

Address	"Sales Management and Organization" A. S. Goldsborough, Secretary, Merchants and Manufacturers Assn., Baltimore, Md.
Paper	"The Possibilities of Developing the Water Heater Business" J. D. Shattuck, General Manager, Philadelphia Suburban Gas & Electric Co., Chester, Pa.
Paper	"Selling the Management on Display," L. E. Lindsay, Mgr., Display Section, The Peoples Gas Stores, Inc., Chicago, Ill.
Paper	"Compensation and Its Incentive to Greater Sales Effort" Thomas F. Kennedy, Mgr., New Business Dept., Henry L. Doherty & Co., New York, N. Y.

Open Discussion — Limited to three-minute talks which must be confined strictly to the subject—members entering the discussion are requested to briefly and to the point discuss the particular sales problem they wish to present.

Thursday afternoon—October 16, 2:00 o'clock

(Meeting jointly with Publicity and Advertising, and Industrial Gas Sections)

Paper — "Advertising and Its Relation to Sales Stimulation"
Frank L. Blanchard, Director,
Public Relations Dept.,
H. L. Doherty & Co.,
New York, N. Y.
(Presented for the Publicity and Advertising Section)

Paper — "Salesmanship and Advertising in Developing Present and New Markets"
C. K. Woodbridge, President,
Dictaphone Sales Corpn.,
New York, N. Y.
(Presented for the Commercial Section)

Paper — "The Industrial Gas Business"
F. F. Cauley, Mgr., Industrial Dept.,
The Peoples Gas Light & Coke Co.,
Chicago, Ill.
(Presented for the Industrial Gas Section)

INDUSTRIAL GAS SECTION PROGRAM

(Gold Room, 1st Floor, Chalfonte Hotel)

Tuesday afternoon—October 14, 2:00 o'clock

Opening Remarks — H. H. Clark, Chairman,
The Peoples Gas Light & Coke Co.,
Chicago, Ill.

Report — Nominating Committee,
F. F. Cauley, Chairman,
The Peoples Gas Light & Coke Co.,
Chicago, Ill.

Election

Report — Educational Committee,
J. P. Leinroth, Chairman,
Public Service Gas Company,
Newark, N. J.

Report	Progress and Development Committee, F. F. Cauley, Chairman, The Peoples Gas Light & Coke Co., Chicago, Ill.
Presentation Industrial Booklets	"Ceramics" C. C. Krausse, Industrial Fuel Engr., Consolidated Gas, Electric Light & Power, Co., Baltimore, Md.
	"Drying" J. Zander, Industrial Engr., The Peoples Gas Light & Coke Co., Chicago, Ill.
	"Food Products" D. A. Flynn, The Peoples Gas Light & Coke Co., Chicago, Ill.
Paper	"Gas Is Cheaper" J. H. Gumz, Industrial Gas Engr., Pacific Gas & Electric Co., San Francisco, Calif.
Paper	"New Developments of Industrial Gas Equipment" W. M. Hepburn, Vice President, Surface Combustion Co., New York, N. Y.

Wednesday afternoon—October 15, 2:00 o'clock

Presentation Industrial Booklets	"Forging and Heat Treating" W. D. Thompson, Northern Indiana Gas & Electric Co., Hammond, Ind.
	"Metal Melting" W. M. Hepburn, Vice President, Surface Combustion Co., New York, N. Y.
	"Tank Heating" Oscar Bowen, The Peoples Gas Light & Coke Co., Chicago, Ill.
	"Heat Control" W. M. Hepburn, Vice President, Surface Combustion Co., New York, N. Y.

Paper	"How to Solve the Industrial Gas Problems of the Small Gas Company" E. G. de Coriolis, Industrial Engr., The Eastern Service Co., Boston, Mass.
Paper	"The Basis of Compensation for Industrial Gas Engineers" J. P. Leinroth, General Ind. Fuel Rep., Public Service Gas Co., Newark, N. J.

Thursday afternoon—October 16, 2:00 o'clock

Joint session with the Publicity and Advertising and Commercial Sections

MANUFACTURERS SECTION PROGRAM

(Auditorium, Second Floor, Steel Pier, Boardwalk Front)

Monday afternoon—October 13, 2:00 o'clock

Opening Remarks	Chairman, George W. Parker, Parker-Russell Mining & Mfg. Co., St. Louis, Mo.
Report	Nominating Committee, F. A. Lemke, Chairman, Humphrey Company Div., Kalamazoo, Mich.
Election	
Report	A. G. A. Laboratory Committee
Report	Division Chairmen Accessories—H. A. Wilson, The H. A. Wilson Co., Newark, N. J. Apparatus & Works—S. E. Fairchild, Jr., Cruse-Kemper Co., Ambler, Pa. Gas Range—Chas. T. Aaron, Walker & Pratt Mfg. Co., Boston, Mass. Heating Appliance—Thomson King, Peerless Heater Co., Pittsburgh, Pa. Industrial Appliance—Walter Whetstone, The Selas Company, Philadelphia, Pa. Lighting Appliance—Townsend Stites, Welsbach Co., Gloucester, N. J. Meter—J. D. McIlhenny, Jr., Helme & McIlhenny, Philadelphia, Pa. Office Labor Saving Devices—E. A. Norman, Elliott-Fisher Co., New York, N. Y.

Water Heater—W. M. Fowler, Lovekin Water Heater Co., Philadelphia, Pa.
Supply—J. J. Greene, Johns-Manville, Inc., New York, N. Y.

New Business

PUBLICITY AND ADVERTISING SECTION PROGRAM

(Blue Room, 1st Floor, Chalfonte Hotel)

On Monday or Tuesday, it is planned to tender a luncheon to the directors of information committees in attendance at the Convention, the remainder of the afternoon to be devoted to a discussion of the directors' work.

Wednesday afternoon—October 15, 2:00 o'clock

Opening Remarks and Report of Chairman	Chairman, J. M. Bennett, The United Gas Improvement Co., Philadelphia, Pa.
Report	Nominating Committee, F. W. Crone, Chairman, New York Committee on Public Utility Information, New York, N. Y.
Election	
Address	"The Right of the Public Utility Company to Advertise" Speaker to be announced.
Symposium	"The Public Utility Information Movement"

Thursday afternoon—October 16, 2:00 o'clock

Joint session with the Industrial Gas and Commercial Sections

TECHNICAL SECTION PROGRAM

(Auditorium, Second Floor, Steel Pier, Boardwalk Front)

Tuesday afternoon—October 14, 2:00 o'clock

Opening Remarks and Report of Chairman	L. J. Willien, C. H. Tenney & Co., Boston, Mass.
Report	Nominating Committee, F. C. Weber, Chairman, Henry L. Doherty & Co., New York, N. Y.
Election	

Paper	"Best Type of Manufactured Gas Plant for Natural Gas Companies Required to Augment Failing Supplies of Natural Gas" Alfred Hurlburt, Equitable Gas Company, Pittsburgh, Pa.
Report	Committee on Water Gas (Carburetted and Uncarburetted) J. S. Kennedy, Chairman, Standard Gas Light Co., New York, N. Y.
Paper	"Nature and Cause of Deposits in Gas Pipes and Meters" Dr. R. L. Brown, Bureau of Mines, Pittsburgh, Pa.

Wednesday afternoon—October 15, 2:00 o'clock

Paper	"High Pressure Distribution" R. S. Fuller, Pacific Gas & Electric Co., San Francisco, Calif.
Report	Coke Committee, R. L. Fletcher, Chairman, Providence Gas Co., Providence, R. I.
Symposium	"How Can Research Best Be Organized to Serve the Gas Industry?" (To be discussed from the standpoint of research in cooperation with Technical Universities and Government Bureaus, research as conducted by the individual gas company laboratory, and finally the advantages of an Association Research Laboratory.)

Thursday afternoon—October 16, 2:00 o'clock

Report	Carbonization Committee, E. H. Bauer, Chairman, Worcester Gas Light Co., Worcester, Mass.
Report	Committee on Measurement of Large Volumes of Gas, M. E. Benesh, Chairman, The Peoples Gas Light & Coke Co., Chicago, Ill.

Report	Committee on Disposal of Waste from Gas Plants, R. G. Porter, Chairman, Philadelphia Suburban Gas & Elec. Co., Chester, Pa.

Thursday afternoon—October 16, 2:00 o'clock

(Parallel Distribution Session, Gold Room, Hotel Chalfonte)

Report	Distribution Committee, J. D. von Maur, Chairman, Consumers Gas Co., Toronto, Ont., Canada
Report	Committee on Standardization of Capacities of Consumers Meters, Walton Forstall, Chairman, The United Gas Improvement Co., Philadelphia, Pa.
Report	Committee on Cast Iron Pipe Standards, Walton Forstall, Chairman, The United Gas Improvement Co., Philadelphia, Pa.

Thursday afternoon—October 16, 2:00 o'clock

(Parallel Chemical Session, Blue Room, Hotel Chalfonte)

Report	Chemical Committee, Dr. A. R. Powell, Chairman, Chicago By-Products Coke Co., Chicago, Ill.
Report	Sub-Committee on Purification, A. F. Kunberger, Chairman, The U. G. I. Contracting Co., Philadelphia, Pa.
Report	Committee on Condensing and Scrubbing, F. W. Steere, Chairman, Steere Engineering Co., Detroit, Mich.

A. G. A. Meritorious Service Medal

Slight Change in Qualifications

Any loyal citizen of the United States, without regard to age, sex, race, religion or political affiliation, shall be eligible for an award, provided, however, he was at the time of the occurrence regularly in the employ of, or an officer of, a member company, or was at the time an active or an associate member of the American Gas Association or of its successor; and provided further that where a member or company member is located outside of the United States then the requirement regarding loyal citizenship shall apply to similar allegiance to the country in which such member or member company may be located.

Entertainment Program* Sixth Annual Convention

THE ENTERTAINMENT COMMITTEE announces the following program for the Sixth Annual Convention, Atlantic City, October 13 - 17, 1924.

Tuesday Evening, October 14, 9 o'clock

Reception to the officers and informal dance in the Convention Hall at the ocean end of the Steel Pier.

The Committee has secured for this evening Zez Confrey and his Orchestra of twenty pieces, one of the famous Paul Whiteman Units, to furnish the music for dancing.

Members and their guests will be admitted to the Pier on this evening on showing the Convention Badge.

Wednesday Afternoon, October 15, 1 o'clock

The Association will entertain as their guests the ladies attending the Convention at a Luncheon and Card Party in the Submarine Grill of the Hotel Traymore.

Tickets for this function will be obtainable at the Entertainment Window of the Registration Desk on the Steel Pier up to 6 o'clock Tuesday, October 14th, on presentation of the stub attached to the special invitation received by members at the time of registration.

Wednesday Evening, October 15, 9 o'clock

The Public Relations Symposium will be held on this evening in the Vernon Room, Haddon Hall. In addition to the eminent speakers on the program of this meeting, the Madrigal Singers of Philadelphia will render a program of choral numbers.

Dancing will follow the conclusion of the meeting.

Thursday Evening, October 16, 8:30 o'clock

On this evening the Association has engaged for its exclusive use the Globe Theater, the newest of the theaters on the Boardwalk, where a special all-star Keith vaudeville will be given. This theater party, composed exclusively of our members and their guests, should prove one of the pleasantest features of the Convention.

Admission will be by ticket only (no reserved seats). These tickets will be on sale at the Entertainment Window at the Registration Desk on the Steel Pier up to 6 o'clock on Thursday, October 16th. Price $2.00 per ticket.

Golfing

Arrangements have been made with the Seaview Golf Club for extending the privileges of their course and club house to any of our members desiring to play during the Convention week up to and including Friday, October 17th. Cards of introduction will be available at the Entertainment Window at the Registration Desk on the Steel Pier. The regular club charges for greens fees, etc., will be made.

*This program is tentative and subject to change and revision.

THE SATURDAY EVENING POST

Public Servants of the Nation

Of all public utilities, none are more essential to the welfare of the nation than the great natural and artificial gas companies.

With their immense investments of capital and highly efficient organization, they have produced the cheapest and most dependable heating element that the world has ever known.

Gas service is a basic need of home life. The producing companies deserve your support and appreciation. They are, in the best sense of the term, public servants of the nation.

GENERAL GAS LIGHT COMPANY
KALAMAZOO, MICHIGAN
NEW YORK, 44 W. Broadway SAN FRANCISCO, 760 Mission St.
PITTSBURGH BUFFALO CINCINNATI ATLANTIC CITY
"If It's Heat You Want You Can Do It Better With Gas—It's Cleaner"

The HUMPHREY

Radiantfire

TRADE MARK REG. U.S. PAT. OFF.

A Striking Piece of National Advertising

ACCOUNTING SECTION

W. A. SAUER, Chairman — H. G. DAVIDSON, Vice-Chairman

H. W. HARTMAN, Secretary

MANAGING COMMITTEE—1924

ARMSTRONG, J. J., Toronto, Can. (Canadian)
BARTON, W. H., Portland, Ore.
BISSELL, J. H., Boston, Mass.
BLANCHFIELD, J. J., Brooklyn, N. Y.
CARROLL, H. P., Beaumont, Texas. (Southwestern)
CLINTON, DEWITT, Worcester, Mass. (N. E. Gas Eng.)
DOERING, W. A., Boston, Mass.
FREY, H. F., Allentown, Pa.
HAASE, EWALD, Milwaukee, Wis. (Wisconsin)
HALL, I. S., Boston, Mass.
HEINS, J. W., Philadelphia, Pa.
HOFFMAN, F. C., St. Paul, Minn.
JAMES, F. M., Aurora, Ill. (Illinois)
JAMES, W. H., Petersburg, Va. (Southern)
KELLER, A. R., Syracuse, N. Y.
KURTZ, ADAM, Detroit, Mich. (Michigan)
LAWALL, H. J., Philadelphia, Pa.
LAWRENCE, JAMES, New York, N. Y.
MEYERS, W. J., New York, N. Y.
MURFIT, W. G., Newton, Pa.
PAGE, HOMER, Charleston, S. C.
PATTERSON, F. H., Rochester, N. Y.
PETERS, W. H., Newark, N. J. (New Jersey)
PLATT, C. W., Portland, Ore. (Pacific Coast)
PORTER, EDWARD, Philadelphia, Pa. (Pennsylvania)
POTTER, C. F., Newark, N. J.
REESE, J. G., Baltimore, Md.
REYNOLDS, A. E., Springfield, Mo. (Missouri)
SCHMIDT, WM., JR., Baltimore, Md.
SCOBELL, E. C., Rochester, N. Y. (Empire State G. & E.)
SCOTT, J. M., Wilmington, Del.
SEARING, R. B., Sioux City, Ia. (Iowa)
SEARLE, A. A., New York, N. Y.
SHORT, A. F., Providence, R. I.
TOSSELL, A. L., Chicago, Ill.
TRACY, F. B., Muncie, Ind. (Indiana)
WILBUR, A. A., Brockton, Mass. (Gas Sales of N. E.)
WINTERS, A. C., Chicago, Ill.

CHAIRMEN OF SECTIONAL COMMITTEES ORGANIZED TO DATE

Analysis of Gas Company Statistics—H. J. LAWALL, Philadelphia, Pa.
Budget—F. H. PATTERSON, Rochester, N. Y.
Customers Accounting—H. J. FREY, Allentown, Pa.
Insurance—J. G. REESE, Baltimore, Md.
Nominating—J. W. HEINS, Philadelphia, Pa.
Relations With Customers—DEWITT CLINTON, Worcester, Mass.
Improving Relations Through Employees Visiting Customers' Premises—W. H. BARTON, Portland, Ore.
Errors, Their Correction and Prevention—J. M. ROBERTS, Chicago, Ill.
Security Holders' Records—E. MACMONNIS, Philadelphia, Pa.
Welfare Systems—O. F. POTTER, Newark, N. J.
State Representatives and Contributions to Monthly—A. L. TOSSELL, Chicago, Ill.
Uniform Classification of Accounts and Form of Annual Report to Public Service Commissions—W. J. MEYERS, New York, N. Y.

Budgetary Control—An Engineer's Viewpoint

FRANK L. CONRAD, Chicago, Ill.

This paper will form part of the 1924 report of the Committee on Budgetary Control. (EDITOR'S NOTE.)

IN ORDER TO properly control expenditures for betterments, extensions and operation and to provide for future financing, the executives of well regulated and managed gas utilities have adopted budget systems of control.

A budget embodying the development of plans of procedure in advance of requirements, with specific reference to construction and operating work, the estimation of expenditures involved, and the control of the work through the medium of this predetermined plan is not a new conception to the professional engineer. It is in the more recent years that this procedure, by which the engineer has been accustomed to prepare estimates and to control the cost of construction and operating work, has been defined as a budget and adopted as a method of executive control by utility companies.

The engineer recognizes in the four major divisions of the budget recommended for adoption by the committee, the familiar classifications which the character of his work has forced him to consider and adopt in his normal practice. It is, therefore, with a background of considerable experience in the practical use of budget procedure that he can, without hesitancy, recommend the prin-

ciple of budget control for adoption by the gas utilities. The first two subdivisions of the committee's proposed system, the "Construction" and "Operating" budgets are of special importance to company engineers inasmuch as the major portion of their activities fall under these two classifications. Indirectly, and as a matter of co-ordinated effort in bringing the proposed project to its successful conclusion, the "Materials and Supplies" and "Cash" budgets are also of interest.

In view of the customary procedure adopted by engineers in preparing their plans and estimates, the memoranda contained in this paper should be accepted as suggestions directed toward the more complete fulfilment of the emergencies encountered is limited in value and should be reconstructed.

General

Accuracy in the highest degree consistent with the best facts ascertainable at the time of preparation is the foundation upon which a successful budget system must be based. This basis can only be realized through a complete coordination of effort on the part of all individuals concerned. The engineering operation of the budget should be a visualization of the engineer's plans and ideas at the time of its preparation. As the controlling conditions change or improvement in design recommend, there should be no hesitancy in preparing a revision of estimates in the light of new data, as it must be recognized that an engineer's judgment, based on prevailing conditions, may change entirely within a short period due to unforeseen changes in the conditions to which his assumptions were necessarily referred. It should be further recognized that a budget, to be successfully used from the standpoint of engineering operations, must be flexible to the extent that emergency construction and operating procedure can be undertaken without the handicaps and delays incident to voluminous paper work and executive "red tape." A system unable to withstand the shocks of emergencies encountered is limited in value and should be reconstructed.

It should be unnecessary to refer to the practice prevalent when the budget was first introduced to operating organizations, of padding estimates in an effort to show substantial savings at the end of the budget period. This not only defeats the purpose of the budget, but clearly shows an inability to grasp the principles upon which the system was conceived.

The engineers should receive close cooperation from the Cost Department in order that they may have promptly beforehand at regular intervals a comparison between the budget estimate and the actual cost experienced to date, principally where work is partially completed. Any differences between the anticipated and actual expenditures should be thoroughly investigated and explained. Where such conditions are found to be caused by increasing prices the individual in charge of the cash budget should be promptly notified so that corresponding revisions may be made therein to take care of the balance of the construction work.

In referring to a budget system, the tendency to speak in terms of dollars of earnings and expenses only, is erroneous from an engineering standpoint and tends to limit its proper consideration by those concerned. A budget is a plan for the operation and extension of the company, in all of its phases, and as such implies the forecasting of requirements of labor, material and money. To the engineer this broader view is important, emphasizing as it does the necessity for

complete development of plans in advance of the actual requirement.

In order to accomplish this result it cannot be too strongly urged that the budget be prepared only after an exhaustive discussion in conference of plans and projects by representatives of all departments concerned in the execution or operation of the proposed developments.

A systematic maintenance program for a five-year period is of great value, in that it is possible by intensive study of the company's needs to so control maintenance expenditures that the annual expense for this purpose may be uniformly consistent.

The budget when properly prepared, is an excellent instrument of executive control through its periodic comparison with actual expenditures and progress, and as such has a very direct interest to the engineer. In addition to the control feature necessitating rigid supervision of work in progress, it presents the opportunity for the engineer to benefit in the revision of his estimates and cost data, thus insuring increasing accuracy in the preparation of future budgets.

A few suggestions from an engineering standpoint have been made below in connection with the specific subdivisions of the budget.

Construction Budget

In addition to the objects of the construction budget as defined in the committee's report, it is believed that the construction budget should function as an engineer's report upon the necessity and adequacy of the proposed extensions or construction work. It should not consist of a statement of generalities or too brief a report of assumptions and data upon which the recommendations are made; but rather should include a carefully prepared survey of pertinent facts influencing the decision, worked out to its definite conclusion. As detailed an estimate of cost should be included as is consistent with the character of the work involved and the basic data. It is considered essential that the construction budget carry with it the approval of the engineers both as to the necessity and the cost of the construction projects proposed. It is very helpful to the engineers and frequently the means of saving considerable time and effort in making recommendations to have a statement from the management of the preliminary policy which will govern the preparation of estimates for the budget period. This is generally possible through the preliminary interchange of ideas between the management, as to policy, and the engineers and department heads, as to the probable effects of this policy, before the compilation of the detailed budget.

It is believed that the value of any construction budget will be in direct proportion to the accuracy with which the budget estimates are compiled. When it is considered that commitment to a project is determined only after a balancing of the cost of an extension against the revenue to be derived, the engineer cannot fail to realize the importance of accurate estimates and he should make every endeavor to obtain a careful and well considered result.

Detailed drawings, if the plans have progressed that far, or lacking them, the most definite information available should form the basis for the budget estimates. Estimates for subdivisions of the budget, for special accounts or work orders, should always be based upon detailed drawings and specifications. While it is highly desirable that the engineers in charge of design should be consulted in the preparation of construction budgets, it is, nevertheless, mandatory that the engineer who will

supervise the construction work be charged with the direct responsibility of compiling the budget for that portion of the work.

Engineers of operating companies are, in general, somewhat handicapped in preparing estimates by the inaccurate and unreliable character of the cost data which results from incomplete analysis and infrequent use. Preparation of data in units of material quantities and man-hours of labor, so arranged as to allow the compilation of unit costs at any time, accurately reflecting prevailing material costs and labor rates, will facilitate the revision of budgets from time to time as the management or changing conditions require. Possession of unit costs accurately compiled in this manner, will be of assistance in the adminstrative or control feature of the budget and provide a basis for checking costs during the progress of construction work. The engineer is thus in a position to observe the differences between the budget estimate and the actual costs. By this intimate supervision serious discrepancies are readily apparent, affording an opportunity for such revision of program as may be necessary successfully to complete the work.

The construction budget in a broad sense should not be considered in terms of cash or contract expenditures exclusively; it refers just as specifically to the preparation of plans for the employment of labor, and the purchase and delivery of material and equipment. Proper co-operation of the management to secure the coordination of the purchasing, stores, and employment departments must exist if the benefits of the system are to be realized to the fullest extent.

Operating Budget

The usefulness of the operating budget is entirely controlled by the care and accuracy with which the estimate of consumption for the budget period is prepared. Consumption estimates are made by the New Business Department, and should be prepared only after consultation with the engineers has shown the location and extent of additions to the distribution system which will be made during the budget period. Inquiry should also be made of the operating department to satisfy all doubt as to the adequacy of the plant and distribution system to meet the forecasted demands of service.

In no other phase of the budget is the accuracy of the basic cost data of such paramount importance as in preparing the estimate of operating expenses. Because of the repeating nature of the items, it is evident that extreme care and diligence should be employed in the selection of the proper unit costs. It should be recognized that the production costs are based upon the volume of gas manufactured or purchased. The consumption figures furnished by the New Business Department, therefore, must be increased by the amount of "gas-unaccounted for" and any other revisions in operating cost necessitated by increased consumption in order to arrive at the proper basis for computation of unit production costs.

In the preparation of this section of the budget it is especially desirable that all individuals immediately concerned with the expenditure of the company's capital, either in cash, labor or material, be consulted with reference to their particular items of expense. That this will instil a spirit of responsibility for operating results in an organization is very evident when executive control is exercised through the monthly comparison of the budget with the actual expenses. In following up the estimates, it is desirable that every individual assisting in the prepara-

tion of the budget be supplied with a comparison of his estimate with the actual expenses. This procedure will not only tend to reduce operating costs, but will increase the accuracy of future estimates.

Materials and Supplies Budget

The engineer's chief interest in the materials and supplies budget is in connection with the proper scheduling of material required for construction work and routine operation. For this reason his construction and operating budgets should include, in as great detail as possible, bills of material requirements for construction in order that proper planning in the purchasing and stores departments can insure delivery by the required time. Unless this is done costly delays in construction work and interrupted service may result. In addition to the use of the budget as a schedule of purchases, the opportunity is also offered to standardize the items of material and equipment used by the company. Contact should be had with the purchasing and stores departments and an effort made to reduce the number of items requisitioned to a minimum.

In the preparation of this section of the budget as in all others, co-ordination of effort between the departments and individuals charged with its preparation is essential if systematic planning in advance of requirements is to be successful.

Cash Budget

As a part of a complete budget system of control, the requirements for proper provision in the cash budget is most important, in order that the plan functions satisfactorily as a whole. The failure of making proper provision for cash when and as required interferes with and may destroy the functioning of the entire budget.

The cash budget is the most important of budget provisions and its value will be recognized by all executives required by their office to negotiate for moneys to meet obligations and for the issuance of securities for financing in advance of construction. If this section of the budget is operated properly, many dollars in new money can be saved by taking advantage of opportunities which may arise in the financial markets.

Conclusions

In conclusion, particular emphasis is directed to the fact that a budget is a plan for the operation and extension of the company in all its phases and in order to accomplish its purpose it is absolutely necessary that the budget be prepared only after complete discussion in conference by representatives of all departments concerned. Through these conferences heads of all departments become familiar with the company's operating policies and through this familiarity competition is instilled between the various departments with the result that savings are made in both operation and construction.

The budget if properly prepared is an excellent power of control of construction expenditures and progress and as such is of direct interest to the engineer. Through its period comparison with actual expenditures the budget guides the executive to the weak points in the operating and construction personnel.

Some men are always in a rush. They are as full of lost motion as a cricket on a hot stove. And yet their mere physical activity is apt to deceive us. ***—Henry L. Doherty.***

Effective Appliance Display

Here is an example of what can be done to set up an attractive window display of gas appliances. A colored spot light, concealed in the tree stumps projected the green and blue coloring of the Peacock against the silver background, giving a very realistic and attractive effect.

This shows what can be accomplished if the display man will give some real thought and effort to the planning and installation of his displays.

✣ ✣ ✣

A. G. A. Members Address London Convention

TWO OF THE PRINCIPAL ADDRESSES before the Public Utilities Advertising Association at the recent Convention of the Associated Advertising Clubs of the World in London were delivered by members of the American Gas Association. They were Bernard J. Mullaney, vice-president of the Peoples Gas Light & Coke Company, whose subject was "Municipal Ownership versus Corporation Ownership"; and Frank LeRoy Blanchard, advertising manager of Henry L. Doherty & Co., who spoke on "Customer Ownership."

"Public utility service as a whole," Mr. Mullaney pointed out, "is more highly developed in the United States than anywhere else on earth, largely because it has been so little under the dead hand of municipal ownership."

Socialism is being eradicated largely by the power of customer ownership, according to Mr. Blanchard. In 1923, he said, $250,000,000 in public utility securities were placed in the hands of customers as compared with only $35,000,000 in 1920.

The American Gas Association has on hand a limited number of copies of both these addresses which it will be glad to send to members on request.

PUBLICITY AND ADVERTISING SECTION

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Contact With State Information Bureaus—J. S. S. RICHARDSON, Philadelphia, Pa.
Nominating—F. W. CRONE, New York, N. Y.

The Three-Legged Stool of Public Relations

A. H. HERRMANN, Assistant to the President, Virginia Railway & Power Company

THAT A NEW ERA is now at hand when utilities might expect to be successful in building their public relations on a foundation of service is assured by the trend of legislation throughout the country which is taking the utilities away from under the local city councils and placing them under state regulation.

This is especially desirable both for the public welfare and for the more efficient operation of public utilities because the State or Public Service Commission, with its regular staff of technical experts and advisers is better equipped than is the local city council to hear, investigate and determine the problems that constantly arise where public utility service is required to expand and grow with the prosperity of the community served.

State Regulation Superior

While more than thirty-six states have public utility regulation by State Commissions, that number of governors recently responded to a questionnaire on the subject, and stated that they found state regulation far superior to the old arrangement of local control through municipal councils. A survey of those states which have placed their public utility services under state regulation will reveal that in the communities of those states there exists a better relation between the public and the utilities, than in the communities where the whims of petty politics and local city councils discourage the investor and hamper the utility, because state regulation has afforded the credit base necessary to provide an adequate service—the keystone to the utility's proper relation with the public it serves.

State control is not an infringement of "home rule." Authority to value public utility properties, fix rates and supervise service thereon vested in the state commission does not give the utility rights in the city streets without a franchise or permit from the local city authorities.

State control merely takes from the

cities those duties which the state, with its commission of highly technical men versed in valuation and rate-making, is more capable of performing for the community and the utility than is the local city council which, as a rule, has neither funds nor available experts for handling this phase of utility regulation.

It has been necessary to dwell at some length on the regulation of public utility services because that is such a large factor in putting the utility in a position where it can earn the approbation of its patrons by rendering good service.

The theory has long since faded away that hand-shaking, public speeches at civic club meetings, and free services for charity sake here and there are the basis of good public relations. These are not to be discounted by any means. They are, in fact, a very important part of an earnest effort to build up satisfactory relations with the people of the community, but they are not the cornerstone. When a man is waiting at the corner for a car to take him home in the evening, he has forgotten the good speech of the traction president at the Rotary Club meeting. He is too busy thinking about the service he is not getting, for service, after all, is the yardstick by which the utility is measured by its patrons.

Credit—Service—Public Relations

When Andrew Carnegie was asked which he thought was of greater service to the country, labor, capital or brains, he replied by asking: "Which is the most important leg of a three-legged stool?"

It is just as hard to say which is the most important leg of the public utility stool—its credit, its service or its public relations. Without a firm credit base the utility cannot command the constant flow of new capital required to make the needed improvements and extensions of a growing community. If its service is inadequate and thus brings about a constant clamoring for extensions and criticism, that the utility is unprogressive and "without vision," it is difficult in the face of such a situation to preserve good public relations and in the absence of satisfactory public relations the wary investor will seek other fields.

It will thus be seen that if the regulating body will provide a credit base for the utility, and in regulating it will also protect its investment from unfair competition and unreasonable requirements, the utility can develop an adequate service that will be flexible to the needs of the community served and thus gain for the utility the good will and cooperation of those who profit by reason of that service.

Along with service, of course, goes a well-defined publicity policy—not the old-time policy merely of filling space in the newspapers to curry the favor of its editors—but a policy of honest-to-goodness effort to keep in touch with the public and inform it of the company's efforts and policies, using street car bulletins and leaflets, mail inserts and newspaper space and whatever other mediums may present from time to time. Such a policy should also include maximum representations in civic organizations and every opportunity sought in them to tell the members, and through the press it will get to the public also, what the utility is doing for the community, what it expects to do and how the public can be of assistance.

If the utility operates street railways it has additional facilities for creating public good will through its motormen and conductors who should be carefully and thoroughly schooled in being on the alert to serve and to make a good impression for the company on the riding public. They are the personal representatives of the company to the passen-

ger, and what they do or fail to do will reflect public sentiment for or against the company.

Public Relations Departments

In many public utility companies there is what is known as a public relations department. The duties of this department are, in short, to announce the policies of the company, direct its advertising and adjust difficulties that have occured.

In theory, such a department is fine. In practice it only scratches the surface. The business of developing and maintaining good public relations cannot be departmentalized. Good public relations, as has been said, have their foundation in service, and unless the spirit to serve adequately and efficiently permeates the whole organization—not one department only—all effort to gain and hold the good will of the public must fail.

The head of the public relations department, which should be no less an one than the chief executive, or president, of the utility, comes in contact with a very small part of the public his company serves. A civic club meeting probably offers him his best opportunity. However, no matter what public service his utility company performs, there is a large number of employees who do make personal contacts with the patrons of that service, the public—the motorman and conductor, the meter reader and the bill carrier, the telephone operator, the clerks behind the counter in the contract department, the cashiers to whom the bills are paid, the members of the "trouble" forces—these are some of the company's representatives with whom the public comes in contact daily, and these are the ones who make or unmake the reputation of the company. They make it if they possess the virtues of courtesy, tact and sincerity, thereby establishing the character of the utility and winning for it the good-will of those whom it serves.

The Duty of Every Department and Employee

So then, every department in the company is a public relations department and every employee, whether in the foreground or "behind the scenes," is a member of that department, and is depended upon to perform his duty in a manner that will make the finished product—serice—what it should be and what the customer expects.

The business then of creating and maintaining good public relations falls largely on the personnel officers in the company in employing suitable representatives for the company and seeing to it that these employee representatives are properly schooled and that they conduct themselves and discharge their duties in accordance with the policies of the company. There is a big field for a wide-awake and relentless personnel department. It is not a job for an amateur.

There are millions of workers today who have never had their jobs sold to them—whose main interest in the work before them is the pay envelope. Such employees only put in time and more often than otherwise they are a hindrance rather than a help in establishing good public relations for their company. It is the job of the personnel department in a public utility to sell the job to the employee—to kindle the spark of interest and enthusiasm manifested when the employee is engaged into a firm belief in, and a thorough respect for, his job and his company. Only then can the employee radiate a spirit that will reflect good public relations.

Service the Foundation

Service, to summarize, is the foundation upon which cordial relations as between the utility and the public must be founded. The utility that is restricted under its franchises and throttled with unfair competition, such as still exists between street railways and unregulated automobiles operating "for hire" in some states in the Union, makes it necessary for the utility to restrict its policy to protecting the capital already invested and thus finds no encouragement, either on the part of the investor or of the municipal authorities, to expand with the needs of the community.

The maintenance of good public relations, like the Carnegie stool, rests on three legs—the regulatory body, the investor and the company including all of its employees.

Making Your Window Display Pay

Change of Display

In almost any locality the number of people who will pass a store in a prominent location is equal to the entire population of the town. Many of these people will pass a given location more than once during a week and this emphasizes the advisability of frequent change of the display.

Price and Term Cards

The best and most accepted practice and the one which has been found to create the greatest number of sales through display is that of plainly and intelligently showing the price and terms, by neatly lettered window cards, under which the merchandise may be secured. People want to know what an article costs and on what terms it can be gotten.

Introducing Your Sales People

A rather novel idea has been successfully tried by one progressive merchant that could be adopted by gas companies. The names of the floor salespeople were put on window cards. For instance, on cards of this kind in a gas company window could be worded, "If you are interested in a gas range ask for Mr. Jones."—"If you want information concerning hot water heaters, ask for Mr. Smith." This puts a human interest touch to the business and it helps the salesman or saleswoman establish at once a friendly contact with the prospect. Try this plan and see how it works.

Pioneering as a Policy

R. O. JASPERSON

THE FACT THAT at least two gas and electric companies known to the writer have embarked upon the task of procuring industrial surveys for their respective territories, prompts the question as to the purpose and scope of such investigations.

An industrial survey should seek to ascertain certain economic facts relating to population, manufacture, agriculture, transportation, financial resources, etc., to show the trend of each and the bearing of each upon the community.

Some companies are confronted with what is often termed the "saturation point." This point will probably never be reached, but as the output curve climbs less precipitously and appliance sales fall off, one is apt to attribute it to approaching saturation. A survey may show the necessity for bringing in more people and more industries to support them or it may show that there is a slackness in all the wealth producing factors.

If the showing is valid, naturally the company will begin to think seriously of what can be done to improve conditions. If the trends show a tendency to lack of balance, too many seasonal industries, with periods of unemployment, the company will seek to enlist the proper agencies in a movement to correct the fault.

The larger view of the survey, however, is that it provides a chart for future programs of expansion. It makes planning more intelligent. It should result in fewer mistakes. It gives the utility a clearer conception of its true relationship to the community.

An accurate economic survey equips a utility with information that gives it power to lead.

A utility company is so closely linked with the community that it cannot escape the consequences of bad conditions. Likewise, it is bound to participate in its prosperity if conditions are good. It shares with every other business interest and individual in the community a responsibility for conditions as they are.

A gas company has exceptional facilities to study population characteristics, housing conditions, industrial conditions, increasing or decreasing power and fuel demands, etc. Census figures, bank clearings, freight movements, manufacturing outputs are easily available and when assembled in the form of a survey with proper deductions made, one can construct curves that tell the story of the past, of the present and to some extent of the future.

A gas company should share this information with the community. If it indicates lack of balance, or retrogression, or of unhealthy conditions, it should lead to action by the proper agencies. If conditions, on the other hand, are good, if prospects are bright, the public will be stimulated to further progress.

Progress is the result of good community spirit, cooperation and balance, coupled with natural resources and conditions that make for advance and prosperity.

Industrial surveys will be more common in the future as gas companies feel the need for a more accurate knowledge of conditions. A company unable to meet the great demands for gas in industry and in the great building program will be less inclined to think of such a study now, but it is believed the time will come when most progressive companies will be asking the question, "What of the future?" and then there will be surveys.

DO you have to heat water on the stove every time you wish hot water for washing your dishes, your clothes or your hands?
If you do, you are behind the times, for nobody needs to go to this inconvenience, if a gas water heater is installed in the home
Small enough to fit in a corner of the cellar or kitchen, using only a little gas, practically heatless, and low in cost, no home is complete without one
No water heater, burning other fuel than gas, has ever been found which is so successful or so within the reach of everybody's pocket book.
We have on display a complete line of hot water heaters. In the list is one which will exactly fit your needs, whether you live in a large house, or a small one. You owe it to yourself to let us demonstrate one to you
A thought—our appliance salesroom is one of the finest in the city, but it is only a part of our complete service to you, a service which takes care of every phase of your heating comfort, from furnishing the appliances, to furnishing the fuel itself
KANSAS GAS AND ELECTRIC COMPANY
"At Your Service"
HOT WATER WHEN YOU WANT IT

A sample of recent advertising of the Kansas Gas & Electric Co.

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Exhibition—GEO. W. PARKER, St. Louis, Mo.
Nominating—F. A. LEMKE, Kalamazoo, Mich.
Division of Accessories Manufacturers—H. A. WILSON, Newark, N. J.
Division of Apparatus & Works Manufacturers—S. F. FAIRCHILD, Ambler, Pa.
Division of Gas Range Manufacturers—CHAS. T. AARON, Boston, Mass.
Division of Heating Appliance Manufacturers—THOMSON KING, Pittsburgh, Pa.
Division of Industrial Appliance Manufacturers—WALTER WHETSTONE, Philadelphia, Pa.
Division of Lighting Appliance Manufacturers—TOWNSEND STITES, Gloucester, N. J.
Division of Meter Manufacturers—J. D. MCILHENNY, JR., Philadelphia, Pa.
Division of Office Labor Saving Devices—E. A. NORMAN, New York, N. Y.
Division of Water Heater Manufacturers—W. M. FOWLER, Philadelphia, Pa.
Division of Supply Manufacturers—J. J. GREENE, New York, N. Y.

Exhibitors at the Sixth Annual Convention

The following is the list of exhibitors to date with the allotment of exhibition spaces. (EDITOR'S NOTE.)

	Booth Nos.
A-B Stove Company, Battle Creek, Mich.	85 & 86
Accounting Section, A. G. A., New York, N. Y.	195 & 196, 205 & 206
Acme Brass Works, Detroit, Mich.	153
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American Gas Journal, New York, N. Y.	169
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American Meter Company, New York, N. Y.	200 & 201
American Range & Foundry Co., Chicago, Ill.	55
American Schaeffer & Budenberg Corp., Brooklyn, N. Y.	170
American Stove Company, St. Louis, Mo.	24 & 41
Atlantic Tubing Company, Providence, R. I.	70
Baltimore Gas Appliance & Mfg. Co., The, Baltimore, Md.	102
Bartlett Hayward Co., The, Baltimore, Md.	92
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Blodgett Company, The G. S., Burlington, Vt.	33A
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Bryant Heater & Mfg. Co., The, Cleveland, Ohio	81 & 103
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In Memoriam

George P. Arbogast, Central Union Gas Co., New York, N. Y.

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C. W. BERGHORN, Jr., Secretary

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LEHNROTH, J. P., Newark, N. J.
OSTERMAN, P. C., Elizabeth, N. J.
QUINN, J. J., Quincy, Mass. (M. E. Gas Eng.)
RAMSAY, R. E., Philadelphia, Pa.
RASCH, W. T., New York, N. Y.
SCHUETZ, A. A., Milwaukee, Wis. (Wisconsin)
SELLMAN, N. T., New York, N. Y.
SLIMPIN, C. D., Montreal, Can. (Canadian)
STAHL, C. R., Davenport, Ia. (Iowa)
STEPHANY, E. J., Pittsburgh, Pa.
THOMPSON, W. D., Hammond, Ind.
VITTINGHOFF, H., Boston, Mass.
WATSON, H. E. G., Toronto, Can.
YEATON, G. D., Providence, R. I. (Gas Sales of N. E.)
YOUNG, A. W., Knoxville, Tenn. (Southern)
YOUNG, R. R., Newark, N. J. (New Jersey)

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Steam Boilers—H. VITTINGHOFF, Boston, Mass.
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Tank Heating—OSCAR BOWEN, Chicago, Ill.
Nominating—F. F. CAULEY, Chicago, Ill.

Gas in the Plant of the Knoxville Sentinel

A. W. YOUNG, General-Manager, The Knoxville Gas Co., Knoxville, Tenn.

THE KNOXVILLE SENTINEL is the leading afternoon and Sunday newspaper of Knoxville. In fact, it is one of the largest and most representative of the southern daily newspapers. Its circulation covers the entire Appalachian territory and, as of March 31, 1924, amounted to 27,009 for its evening issue and 27,647 for its Sunday edition.

The Sentinel's slogans—"A Clean and Constructive Newspaper" and "When you see it in the Sentinel, it's so" will typify its modern and progressive character. Therefore, it is only natural that its plant should contain only the best available printing machinery and equipment. And as a direct conclusion of that it is only to be expected that gas should play a prominent part in its plant.

This it does. With the exception of two linotype machines, under which electric melting pots have been installed, gas fuel is used exclusively in the Sentinel's mechanical plant. This is considered a fuel economy and also a labor-saving device as well as affording a degree of cleanliness and precaution against fire which did not obtain under the former regime of soft coal burners. The management of the Sentinel, in fact, gives very cordial endorsement as to the use of gas as a fuel in connection with its mechanical equipment.

This equipment, a small portion of

Fig. 1—Matrix Tables

Fig. 2—Stereotype Metal Furnace

which is illustrated here, consists of nine linotype machines, three steam tables in the stereotyping plant, one melting pot for the duplex plate casting equipment, one four-ton stereotype metal furnace and one one-ton dross melting pot. Besides these, the Sentinel also uses gas as a fuel in its press room for maintaining heat under its glue pots, and, in certain periods of the winter, it places gas burners in its press pit in order that a sufficient degree of heat may be maintained to preserve a temperature to protect its ink rollers. This equipment averages about 323,000 cubic feet each month.

Figure 1 shows three matrix tables supplied with steam at 85 lbs. working pressure from as many individual gas-fired boilers. The gas burners to the boilers are shown below the galvanized heat guard, which is asbestos lined.

Figure 2 shows a four-ton stereotype metal furnace equipped with 38 atmospheric burners in three sets—inner, 8 burners; middle, 12 burners; outer, 18 burners. An atmospheric pilot burns continuously.

This equipment was installed in the early part of 1917 and there have been no cracked pots since. This is important for several reasons. First, the cost,—a four-ton pot costs approximately $125 and where gas is not used it is necessary to keep one or two extra pots on hand. Second, the time saving—a cracked pot means considerable delay. Third, the safety of the workmen, since, as shown in the illustration, the pot is kept practically full, when it cracks the bottom drops to the floor and the attendants, if in the immediate vicinity of the furnace, must necessarily move quickly to avoid serious burns and consequences.

Fig. 3—Stereotype Metal Dross Pot

This furnace is operated on the following schedule:—The inner set of eight burners is turned on at 8:00 a. m. At 8:30 a. m. the middle set of 12 burners and the outer set of 18 burners are turned on. At 10:00 a. m. the outer set is shut off and at 10:30 a. m. the middle set is shut off. Thus the four tons of molten metal is kept at the desired temperature.

The 2" line with globe valve shown entering the burner box in the illustration is not used. It was installed solely because the operator, used to seeing his coal, was skeptical about gas, a fuel he could not visualize.

Fig. 3 shows the one-ton stereotype metal dross pot equipped with two sets of atmospheric burners—inner set of 4 burners and an outer set of 8 burners. This size pot does not require a pilot burner.

Throughout the years that this gas equipment has been installed, the gas service has been continuous,—uninterrupted and, from the angles of economy, dependability and satisfaction, gas fuel has merited the highest praise of the men who operate this successful newspaper enterprise.

✣ ✣ ✣

A. G. A. Membership

The membership of the Association stood as follows on April 1, 1924:

Holding Companies	16
Gas Companies	510
Manufacturer Companies	270
Individuals	2466

At the time of going to press, a similar statement would look somewhat as follows:

Holding Companies	17
Gas Companies	518
Manufacturer Companies	287
Individuals	2509

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LOUIS STOTZ, Secretary

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KENNEDY, T. F., New York, N. Y.
KING, THOMSON, Pittsburgh, Pa.
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MCCONNELL, H. N., New York, N. Y.
PICKARD, E. F., Greensboro, N. C. (Southern)
PHENICIE, C. R., Green Bay, Wis. (Wisconsin)
QUINN, JOHN J., Quincy, Mass. (Gas Sales of N. E.)
RASCH, W. T., New York, N. Y.
SMITH, D. R., Baltimore, Md.
SMITH, W. L., Battle Creek, Mich.
VINCENT, G. I., Syracuse, N. Y.
WEISER, J. A., York, Pa.

CHAIRMEN OF SECTIONAL COMMITTEES ORGANIZED TO DATE

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Commercial Policy—P. S. YOUNG, Newark, N. J.; CHAS. A. MUNROE, Chicago, Ill.; F. J. RUTLEDGE, Philadelphia, Pa.; R. B. BROWN, Milwaukee, Wis.; F. R. BARNITZ, New York, N. Y.
Home Service—ADA BESSIE SWANN, Newark, N. J.
Salesman's Manual—H. D. VALENTINE, Chicago, Ill.
Sales Stimulation—J. P. HANLAN, Newark, N. J.

Monthly Sales Service Still Going Strong

744 Subscribers to June 30th

BY THIS TIME the subscribers to the Monthly Sales Service will have received six mailings of material,—three bulletins issued, one on the fifteenth of April, one on the fifteenth of May and one on the fifteenth of June, and three special reports. It has been a source of considerable gratification to have received at Association Headquarters a number of most complimentary comments from subscribers.

The Vice President and General Manager of one company, in sending in an application for company membership states:

"Your Monthly Sales Service has been a wonderful help to our entire force."

A manufacturer says that while the service is devoted principally to the selling of gas and gas appliances, he finds many helpful suggestions that can be used in his own business.

The General Sales Manager of a large Southern property writes:

"We think your Monthly Sales Service is particularly fine and are looking forward to its continuance along its present lines. Only someone who understands this work is giving a great deal of thought to the preparation of your material."

The Advertising Manager of a large company in Indiana says:

"We think the service is a very fine thing and expect to derive some very valuable helps from it."

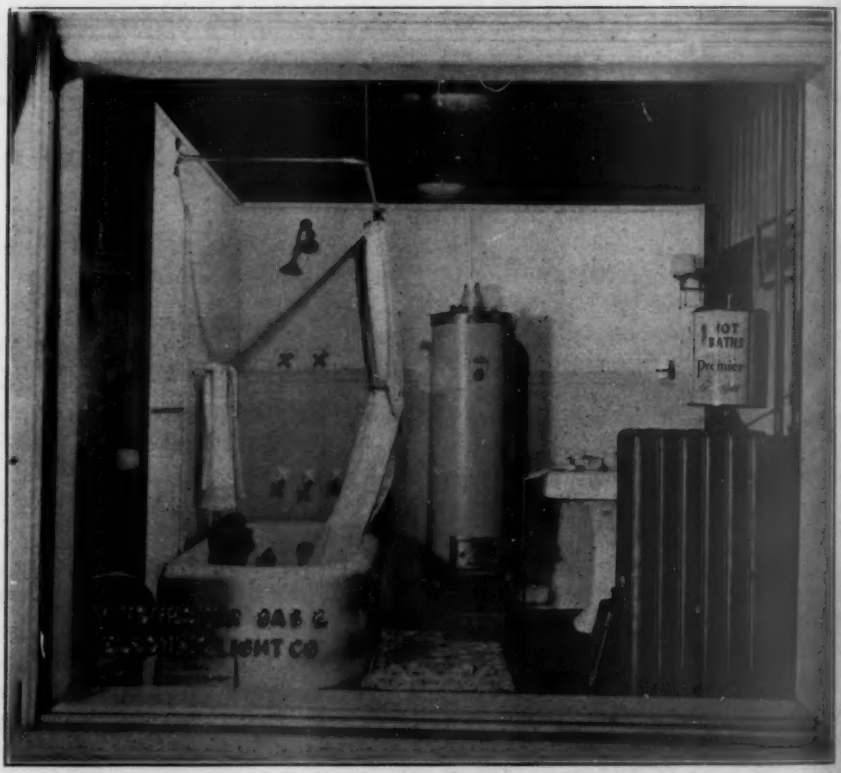
These are but a few unsolicited testimonial letters that have come in to us.

One company, which had previously subscribed for eight copies of the service, increased its subscription during the month to fourteen and another company which previously had four subscriptions increased it by two additional.

A prominent manufacturer of gas ranges has just ordered eight sets of the service to be sent to their traveling representatives and agents. And so it goes.

We believe that every sales manager and department head or those who have anything to do with the sales work of their companies will find this service of real help. Those companies which are not receiving the service will find it to their advantage to subscribe. The fact that we have had not one criticism from the 744 individuals who are receiving this service is some indication that it is filling a need and that it is helpful.

If your company is not a subscriber, why not take the service on now while there are still available such issues as have been distributed since the service was started on April 15th?



"HOT WATER WEEK" IN WINCHESTER, VA.

"As a result of the vigorous advertising and solicitations of that week we sold fourteen Premier heaters and have lined up for sale nearly as many more. This is evidence of what may be done by a well-planned and directed advertising campaign."

Here's a Mailing Folder to Help You Sell Water Heaters

THE DESIGN AND LAYOUT of this mailing piece is unique and entirely different in style from the usual direct-by-mail folder. It tells the story we have to tell mostly in pictures with suitable human interest titles and sub-captions. There is also a foreword to the booklet, a really interesting human interest story which visualizes the constant need of a plentiful supply of hot water in the home, and the convenience of the gas water heater.

The illustrations shown here are a few of those which appear in this, our latest 12-page booklet, sample copy of which will be sent on request. The photographs were taken specially for this booklet and have never been used before.

This is a piece of advertising literature that will receive attention, it will be looked at more than once, and has an appeal which cannot but help create a wish for *Gas Hot Water Service.*

With Mud and Glory

Playtime Is Coming

A liberal distribution of these booklets to your consumers, particularly to water heater prospects, should create inquiries and sales. They can be mailed with a sales letter, distributed by the sales representatives, placed in the show room on a table near the door, and even made up into a window display with a neatly lettered card inviting everyone to step in and get a copy.

The inside cover page is available for the company's imprint of name and address.

The Association's ability to publish such a booklet in large quantity to supply our member companies makes possible the low price of $25 per 1,000, at which price they are now offered. No imprint can be made on lots of less than 1,000 copies. The $25 price includes the imprinting of your company's name and address.

A Helpful Service for the Architects

HERE'S AN IDEA from the Architects' and Builders' Service Committee to supply the architects in your territory with a folder in which they may file literature and data pertaining to gas and its uses.

Provision must be made for adequate piping and outlets in all buildings and homes if we are to secure the maximum uses for gas service. It is quite obvious that the time to have gas piping installed is at the time the building is under construction, for the reason that the piping can be concealed and provided at a much less cost than if installed after the building is completed.

From the illustration of the folder it will be noted that there are several tabbed compartments for the filing of literature pertinent to the various subjects.

It is suggested that one of these folders be personally delivered by a special representative to every architect in your territory, with the explanation that you will supply him from time to time with useful information pertaining to gas.

The price of this folder, with bound edges, linen tabs, including the name of your company imprinted on the front, is *75 cents each*. This price is made possible because the Association is able to order them in sufficient quantity to meet the needs of all member companies.

Kindly notify us at your earliest convenience the quantity you will require and whether you wish the name of your company imprinted.

THE FOLDER

Notice

The Home Service Committee has arranged to use spaces 218-219-220 on the Steel Pier during our Atlantic City Convention in October for an exhibit of the Home Service activities of our member companies. There is a growing interest on the part of gas companies in this work and all those who attend the convention are urged to make a careful inspection of this particular display.

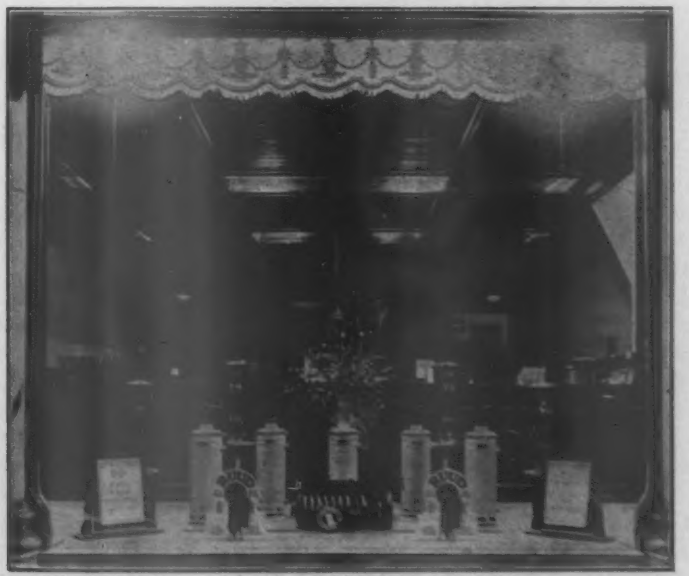
Window Displays

RECENT CONTRIBUTIONS of ideas for window displays submitted by members of the Display Club have not, in the judgment of the Committee, warranted the award of a prize, for the reason that they have not quite met the quota of points necessary to win such a reward.

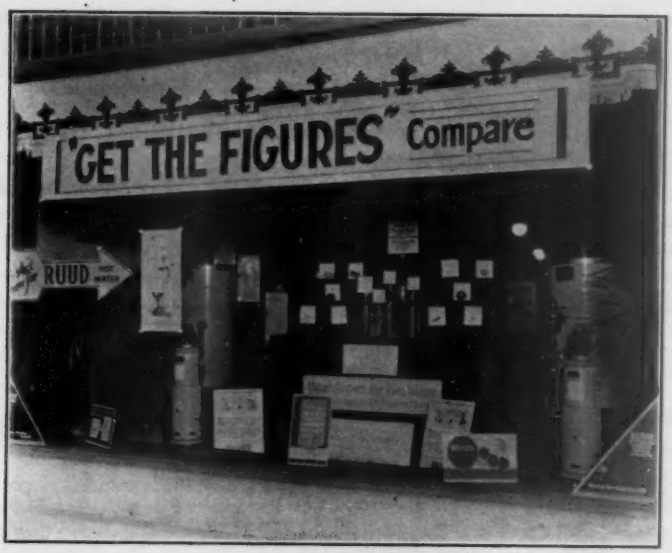
In order to secure a prize the contribution must earn at least seven points based on the following schedule—

General effectiveness	4 points
Value from gas sales standpoint	3 points
Value from appliance sales standpoint	2 points
Originality of idea	1 point
Total	10 points

There are reproduced three displays sent in by members of the Club and while unfortunately none of these secured a prize, they may nevertheless contain ideas which will be helpful to others.



A "Tank Heater" Window



A "Storage" Window

An "Instantaneous" Window

TECHNICAL SECTION

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H. W. HARTMAN, Secretary

MANAGING COMMITTEE—1924

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EARLE, W. H., Rochester, N. Y. (Empire State G. & E.)
FRUERS, H. C., Sedalia, Mo. (Missouri)
FIELDNER, A. C., Pittsburgh, Pa.
FREEMAN, E. C., Providence, R. I.
HADDOCK, I. T., Cambridge, Mass.
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PERRY, J. A., Philadelphia, Pa.
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WEAVER, E. R., Washington, D. C.
WEBER, F. C., New York, N. Y.
WHITTAKER, A. D., Atlanta, Ga. (Southern)
YARD, W. S., San Francisco, Calif. (Pacific Coast)

CHAIRMEN OF SECTIONAL COMMITTEES ORGANIZED TO DATE

Carbonization and Complete Gasification of Coal—E. H. BAUER, Worcester, Mass.
Cast Iron Pipe Standards—WALTON FORSTALL, Philadelphia, Pa.
Condensing and Scrubbing—F. W. STERNS, Detroit, Mich.
Chemical—DR. A. R. POWELL, Chicago, Ill.
Coke—R. L. FLETCHER, Providence, R. I.
Gas Pipe and Meter Deposits—DR. R. L. BROWN, Pittsburgh, Pa.
Distribution—J. D. VON MAUR, Toronto, Can.
Editorial, Revision of Catechism—W. J. SERRILL, Philadelphia, Pa.
Measurement of Large Volumes of Gas—M. E. BENESH, Chicago, Ill.
Nominating—F. C. WEBER, New York, N. Y.
Standardization of Capacities of Consumers Meters—WALTON FORSTALL, Philadelphia, Pa.
Water Gas Operation—J. S. KENNEDY, New York, N. Y.

Selection, Preparation and Carbonization of Coal and Preparation of Coke

PART I

A. W. GRANT, JR., St. Paul, Minn.

This paper, which will form a part of the 1924 report of the Coke Committee, will be printed in two installments, Part II appearing in the September issue of the Monthly. (EDITOR'S NOTE.)

THE PRESENTATION of this paper has been hindered more by the decided lack of time available for its preparation than by a lack of material.

Advances in the sciences of designing and operating and the art of constructing carbonizing units appear to me to have so far surpassed the science and art of blending coals that I have presumed to deal herein more with those factors pertaining to the blending of coals than to methods of operation.

The employment of the best operating means will be unavailing if the coal mixture is not definitely controlled.

The chemical aspects of these subjects will not be dwelt upon with the finesse and exactitude of a chemist, moreover, since such a course would invite too many minor points of attack which might obscure the major ideas of importance to the operators to whom it is especially addressed. It is trusted that such apparent oversights, therefore, will be left for your future consideration, while viewing the paper qualitatively rather than quantitatively.

It is obvious, doubtless, that the aim should be to select that coal, or mixture, that will render the greatest revenue to

the plant, irrespective of the relative yields of products, as long as the yield of no one product falls short of fulfilling the obligation of the plant in that particular. But, as such a course is not always pursued, I will offer a few statements relating thereto.

Too much consideration is frequently given to obtaining high by-product yields, or to operating the plant as a technical success alone, rather than to the commercial or economic end, producing the cheapest possible products compatible with a fair return on the investment.

Now if we assume the ability of the plant to dispose of all its products, the next two related considerations of major import are: the selection of a coal or coals that will give a gas meeting the requirements of all consumers; also the choosing of that coal mixture that will produce a coke satisfying trade specifications for percentages of ash and sulphur and for ash fusion temperature and percentage of total sulphur.

The selection of a coal, or mixture, for a carbonizing plant is analogous to the proportioning of materials making up a concrete mixture. The former is a mixture of volatile matter, cementing material, carbon and ash; the latter, of volatile matter (water), cement, sand and gravel, respectively.

Ash and Sulphur Contents and Agglutinating Values as Reflected by the Transition of Size of Coal

In making a selection it is very important to consider the size of coal purchased. The smaller the size the greater is the danger of spontaneous combustion, or at least deterioration, when in open air storage. On the other hand, it will be found that no two dissimilar sizes of any given coal will show like analyses.

Within practical limits, some coals will show increasing contents of ash and sulphur with an increase in size of that coal; conversely, others will be found to have opposite trends of sulphur and ash contents for changes in size of the coal. Hence the screenings from some coking coals are superior to lump sizes, while for others the lump sizes are preferable to the screenings.

An explanation for these differences may be found in the fact that the lines of cleavage of some coals are higher in ash, fusain, sulphur, etc., than is the balance of the seam, or the lump; while, in others, the contrary is true. All coals, upon handling, will naturally throw much "cleavage" coal to fines, which may or may not be purer coal, depending on the particular coal in question. (See Figure I.)

Sulphur

Apropos of sulphur, a coal is usually acceptable if the total sulphur reported does not exceed a certain, arbitrary plant maximum; such a specification, however, may fall short of meeting not only the best interests of the coke consumer, but also those of the coke and gas manufacturer.

Of the total sulphur in the original coal, more will be liberated as volatile products and less will be retained by the coke as the temperature is increased; also, as the weight of the charge—for a given coal and pulverization—is increased. The latter reduces the cracking space above the charge and increases the velocity of effluent volatiles.

Thus, the problem becomes an individual one, whether or not it is more desirable to throw that "possible" portion of sulphur to gas that otherwise would be retained by the coke.

Generally speaking, the total sulphur content of commercial coking coals is volatilized upon carbonization over a range of from 20% to 50%, leaving

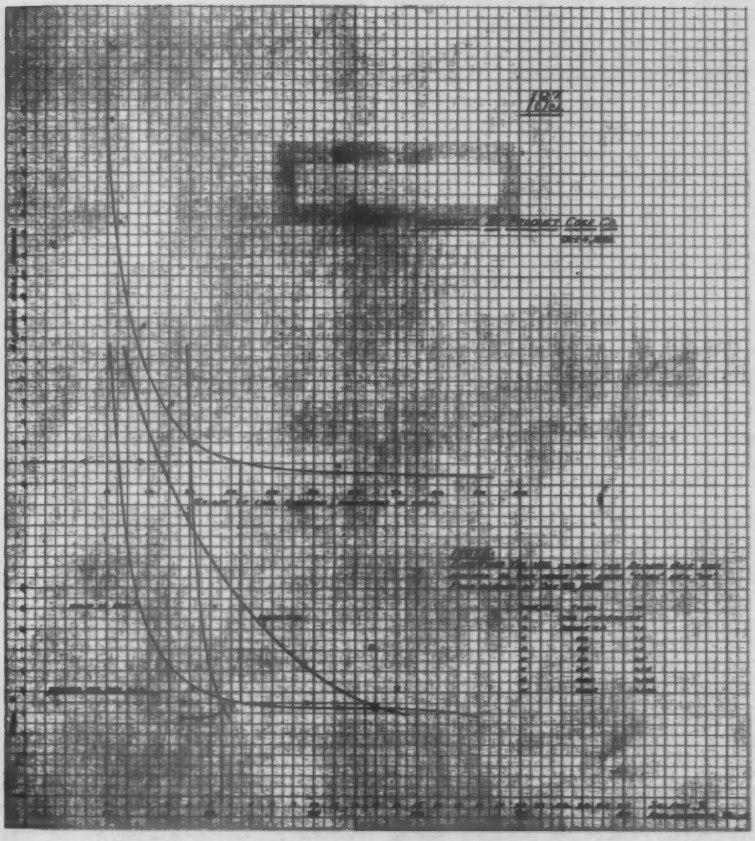

Fig. 1

80% to 50% to be retained in the coke. The percentage retained depends upon the coke yield as well as upon the character distribution of sulphur in the original coal, the amount of heat received during carbonization, the fullness of the carbonizing chamber, etc. (See Figure I.)

Pulverization

It would appear as though fine pulverization was conducive of better mixing of coals and assisted in the formation of larger, less fractured coke, besides offering greater coal surface per unit weight.

It should be recalled, however, that the weight of a unit volume of coal increases up to a certain point with increased pulverization and then the weight decreases, hence a maximum oven charge requires a definite fineness of coal. This fineness varies with different coals and ash contents, and may, within practical limits, change the charge by as much as 4%, or much more, one way or the other. Fineness of coal is, therefore, of considerable practical value in increasing plant capacity, while at the same time it gives a tendency towards a more compact charge, which is conducive of increasing the yield of sized coke and is one reason

for improved coke structure with greater use of low volatile coal.

Bearing these two points in mind, it is apparent, that over a certain restricted range, we are striving to satisfy two opposing conditions (extreme fineness and maximum weight of charge). Thus no general rule can be set down, for the optimum relation will vary so widely from one plant to another that a distinct problem is presented for each of us.

The finer the pulverization, the faster will a charge transmit heat and hence allow of speedier carbonization, which promotes higher porosity (not considering the relationship between mass and volume of charge).

Cementing Material in Coal

Conversely, the importance of pulverization is indicated by recognizing the fact that the amount of "necessary cementing material" required reduces in accordance with decreasing size of the coal. Primary degradation is very largely due to "sponge," which is indicative of a surplus of cementing material, or due to insufficient over-coking. Under-coked coke is in a highly expanded condition and thus suffers excessive abrasion along the brickwork while being discharged from a carbonizing chamber, while over-coked coke suffers primary degradation largely by virtue of shrinkage and splitting up of coke bundles due to contraction at elevated temperatures.

Another condition to be satisfied is that the percentage of ash in a carbonizing mixture can, within a certain range, be varied at the expense of carbon, though there is a most favorable ratio between that portion of cementing material in the coking mixture and that of carbon and ash, so if the ash portion is fixed by trade requirements, it is desirable to select a coal, or mixture, that allows of the proper balance between cementing material (moisture-free volatile organic matter content, approximately) and fixed carbon —for a given ash content. This balance can, in a practical way, be ascertained by comparing the results of trial coals, or mixtures, with a standard.

Also, the amount of cementing material in coal can, within certain limits, be thrown either to coke or tar, just as ash can be varied at the expense of carbon, within limited range.

When a coal mass is first charged into a carbonizing chamber, extraneous moisture is liberated up to about 212° F., then water of constitution up to about 400° F., followed by water from the decomposition of humus bodies, while at about 475° to 500° F., there is a fusion of hydrocarbons and resinous compounds, *which are the cementing materials in the formation of coke*. From 500° to 1000° F., roughly, the formation of low temperature coke occurs, during which time the cell structure is formed. Above this temperature high-temperature coke results. Over-coking commences "at that temperature at which the last practical traces of volatile matter have been expelled." During the over-coking period "isomeric" changes occur in the coke that much influence its density, gravities, size, thickness of cell wall, cell diameter, porosity and shatter test.

It is very interesting here to note the direct comparison between carbonization by artificial means as opposed to anthracization as accomplished by nature. In either case, an input of energy, whether in the form of temperature, pressure, or whatnot, is first attended by the liberation of oxygen, mainly, with an almost equal increase in the percentage of carbon, while later there is a greater liberation in the percentage of hydrogen than of oxygen, with like increase in carbon.

The oxygen first evolved goes mainly to the formation of CO_2 and H_2O, both

of which reactions are highly exothermic, and to a much lesser degree to CO_2 which is likewise lesser exothermic. Table I shows this transition rather clearly though the figures are only approximate.

It is, therefore, evident how vastly important it is to speed away the initial volatile products of distillation as rapidly as possible, as then the residua will be the equivalent of a superior coal. If the process could be satisfactorily handled in two stages, there is no reason why a poorly coking coal could not be much improved or why a high volatile coal could not be partially devolatilized so that the resultant mass would become constitutionally that of a low volatile coal. Such a transition is exactly that followed during the process of anthracization of coal.

The coal blend should be such that there is neither an excess of high volatile nor of low volatile coal in the mixture. The tendency of the former condition is to produce a friable coke due to a surplus of cementing material; of the latter, to produce the same result due to a deficiency. In either case, the yield of braize is increased (though it is different in character) with a corresponding reduction of sized coke. This reduction naturally affects,—first the gross revenue, and then the cost of gas per thousand, and often to a degree far beyond any possible saving that could be obtained by more efficient recovery of the other products more popular with gas men in general.

Now considering for a moment the question of a specific coking index for coals, it is obvious that, eliminating volatile matter, coke is principally nothing more than carbon and ash. The actual weight of fixed carbon in the coke exceeds that in the original coal, hence this excess must have come from the volatile carbon (v. c.) of the coal, and is thus the carbonaceous residue from the cementing agent that lutes the several carbonized residues into a coherent whole. If one could then establish the character and quantity of such cementing material with respect to the character and quantity of materials to be luted together, it would be a comparatively simple matter to predetermine the character of coke that would result from carbonization.

It has been stated that volatile carbon is the cementing agent that binds the carbonized residua into a coherent whole, but it is not claimed that the values of volatile carbon shown in this paper are more than qualitative within themselves (as showing approximately the relative amount of binder offered by one coal as compared to another), for the reason that the proportioning of volatile carbon, due to "breaking down," as obtained from laboratory tests, is quite dissimilar to that which actually occurs in practical operations—crucible versus carbonizing chamber—since the elements of time, space, atmosphere and temperature are injected so decidedly in favor of the latter towards increasing coke yield. In short, I have merely attempted in this particular case, as in most others dealt with herein, to indicate practical trends through the agency of laboratory data alone. With this specific warning before you, a coking index is here offered:

$$(100\%-\text{Moisture }\%) \times (\text{Charge Density}) \times (\text{Weighted Pulverization})^{x} \times \left[\frac{\left(H-\frac{O}{8}\right)+(y \times V.C.)}{F.C.+z \times Ash}\right]$$

Where,

Charge Density=pounds of coal per cu. ft., dry.

Weighted Pulverization=coal weight fractions, expressed in percentage total weight, as obtained by screen

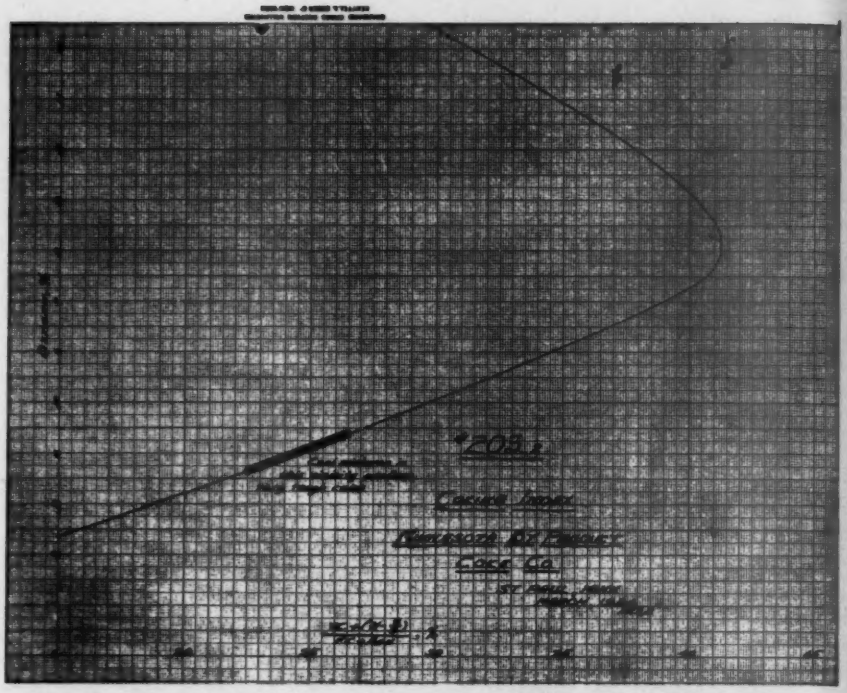

Fig. 2

test, multiplied by their respective sizes and divided by the total weight of coal sample. It has been assumed that the largest particle of coal will just pass through a ½" screen.

$\left(H - \frac{O}{8}\right)$ = Available Hydrogen in coal, %.

V. C. = Volatile Carbon in coal, %.
F. C. = Fixed Carbon in coal, %.
Ash = Ash in coal, %.

I have not yet been able to determine the values for w, y and z with sufficient degree of accuracy to warrant publication. For the purpose, however, of establishing the trend of the average coking index for a wide variety of coals, I have constructed a graph (Figure II), showing the relationship between oxygen content as ordinates against the ratio of (Available Hydrogen+Volatile Carbon) +(Fixed Carbon+Ash). This graph shows clearly why high oxygen coals produce such inferior coke when carbonized in one stage; also, why volatile carbon plays such a paramount role in the formation of coke. It also gives an indication of the trend of the thermic reactions during the carbonization of coal, the net result of which becomes decreasingly less exothermic as the oxygen content reduces, until a point of about 7% or 8% oxygen is reached; after this, the net result appears to become endothermic.

Also attached is a graph of volatile matter of coals versus "X" (Figure III); obviously, the latter is only a rough approximation of the amount of volatile carbon and occluded gases in the coke

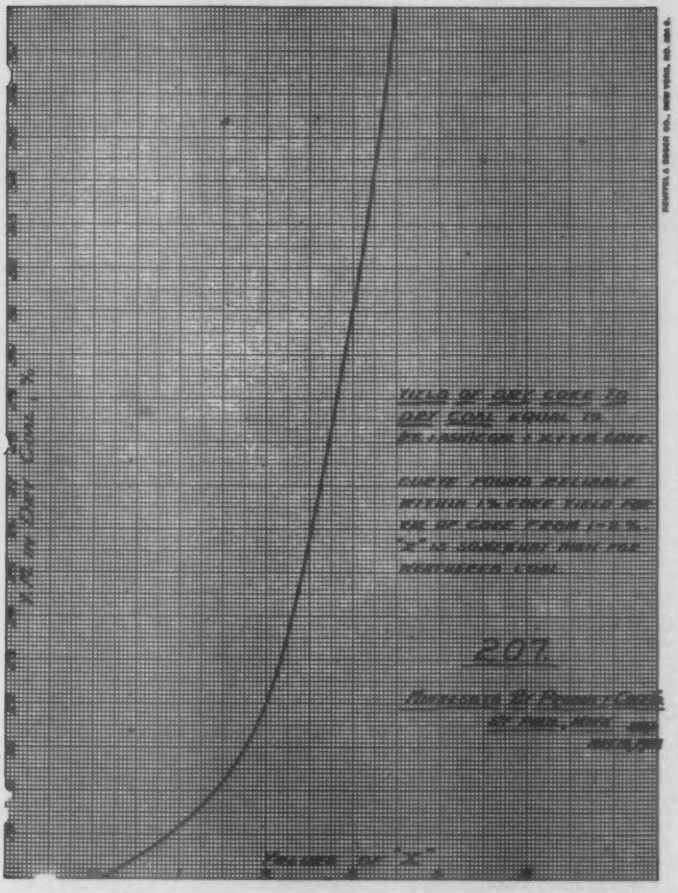

Fig. 3

since it indicates merely the "average coal curve" and also, since it denotes the volatile matter in 100% coke rather than in that portion represented by the coke yield. The actual value of volatile carbon and occluded gases is, therefore, somewhat greater than "X." In any event, it gives a rough approximation of the magnitude of the agglutinant substance in the original coal that passes into coke during the transformation. This graph, it will be noted, is closely related to that showing the relationship between volatile content of coal and the coke yield (Figure IV).

As the relationship between the volatile carbon and (F. C.+Ash) is so important, I have appended a graph (Figure IV), which shows the "average coal curve" for volatile carbon and (F. C.+Ash) versus coke yield. For a given coke yield, a coal that contains Fixed Carbon+Ash less than indicated by the curve will be found to show a high yield of gas, while the reverse is true of those that contain higher percentages of (F.

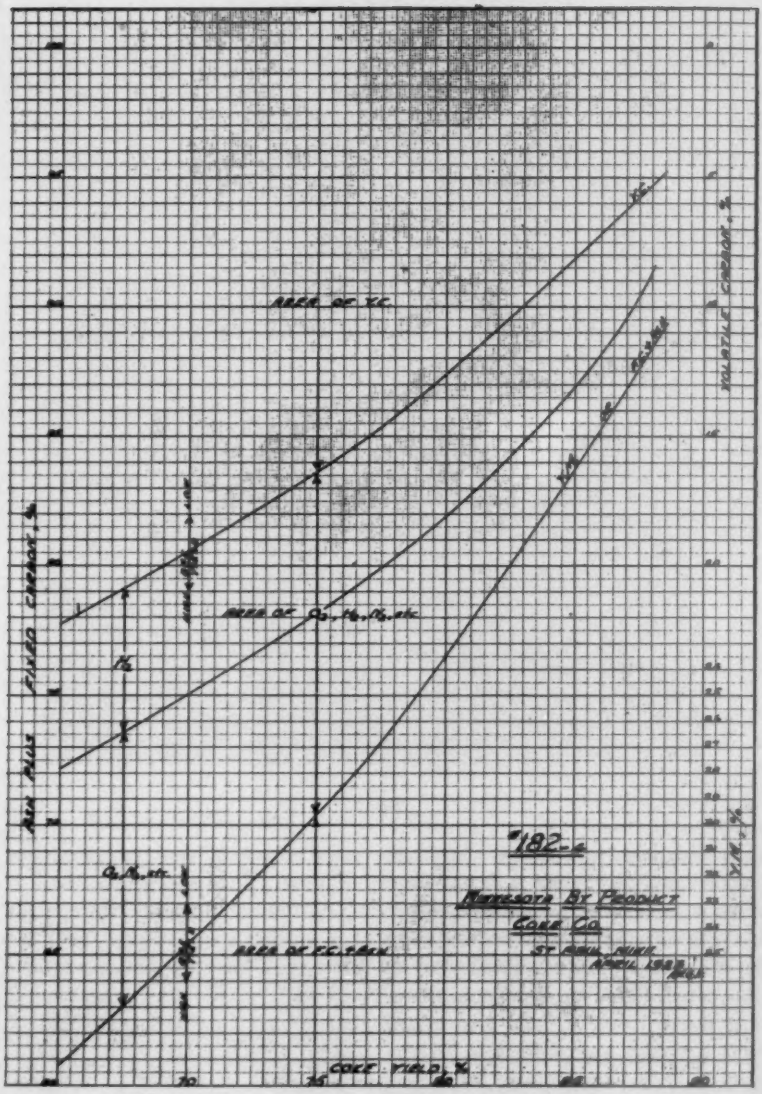
AREA OF Yc
AREA OF Co, H2, N2, etc.
AREA OF Yc + Co, H2, N2, etc.
Co, H2, etc.
Yc
Yc + Co, H2, etc.
COKE YIELD, %
VOLATILE COMBUST., %
A.G.A. FUEL FIXED CARBON, %
"182-A
MINNESOTA BY PRODUCT
COKE CO.
ST. PAUL, MINN.
APRIL 1922

Fig. 4

TABLE 1

DISPOSITION OF MAJOR ELEMENTS IN ORIGINAL COAL BEFORE AND AFTER CARBONIZATION

Before Carbonization			After Carbonization																		
			GAS													COKE					
																Disposition in Coal					
Ultimate	Proximate	Conventional	CO_2	C_nH_m	O_2	CO	H_2	CH_4	N_2	Total	H_2S	H_2O	Tar	NH_3	F. C.	Ash	Transformed Binder	Occluded Gases	V. M. Coke	Coke Yield
77.47 C	63.76 F. C.	63.76 F. C.	—	—	—	—	—	—	—	—	—	—	—	—	63.76	—	—	—	—	63.76
—	—	13.71 V. C.	0.16	2.32	—	0.79	—	4.42	—	7.69	—	—	3.55	—	—	—	2.47	0.68	0.78	2.47
4.69 H_2	—	4.69 H_2	—	0.39	—	—	1.25	1.48	—	3.12	0.040	1.18x	0.42	0.04	—	—	—	but calculations show 1.86 sulphur	but calculations show 0.60 N_2	0.68
2.89 O_2	25.13 V.M.	2.89 O_2	0.43	—	Zero	1.05	—	—	—	1.48	—	1.41†	0.21	—	—	—	—			
2.51 S_2	—	2.51 S_2	—	—	—	—	—	—	—	—	0.65	—	—§	—	—	—	—			0.78
1.33 N_2	—	1.33 N_2	—	—	—	—	—	—	0.54	0.54	—	—	—	0.19	—	—	—			
11.11 Ash	11.11 Ash	11.11 Ash	—	—	—	—	—	—	—	—	—	—	—	—	—	11.11	—	—	—	11.11
100.00 Total	100.00 Total	100.00 Total	0.59	2.71	Zero	1.84	1.25	5.90	0.54	12.83*	0.69	1.59	4.18	0.23	63.76	11.11	2.47	0.68	0.78	78.80

VOLATILES, 23.45% RESIDUA, 78.80%

WEIGHT BALANCE—	*Effluent Volatiles*	*Volatiles Occluded, etc.*	*Transformed Volatiles*	*F. C. + Ash*
12.83% Gas 0.69 H_2S 1.59 H_2O 4.18 Tar 0.23 NH_3	19.52	—	—	—
78.80 Coke	—	0.68 + 0.78	2.47	74.87

Total 98.32% Accounted for.

V. M. 1.68% Unaccounted for = 25.13% V. M. — 19.52% Gas, Tar, etc., — 2.47% Transformed Binder—0.68% Occluded Gases—0.78% V. M. in Coke, however, the formation of minor gaseous constituents such as cyanogen, sulfurous acid, carbon disulphide, etc., have not been recognized.

* Checks within 5.5% of the weight of gas as found by sp. gr. and volume of same.

† Leaving no O_2 for V. M. and Occluded Gases of coke.

x Leaving no H_2 for V. M. and Occluded Gases of coke.

§ Assumed that tar contained no sulphur.

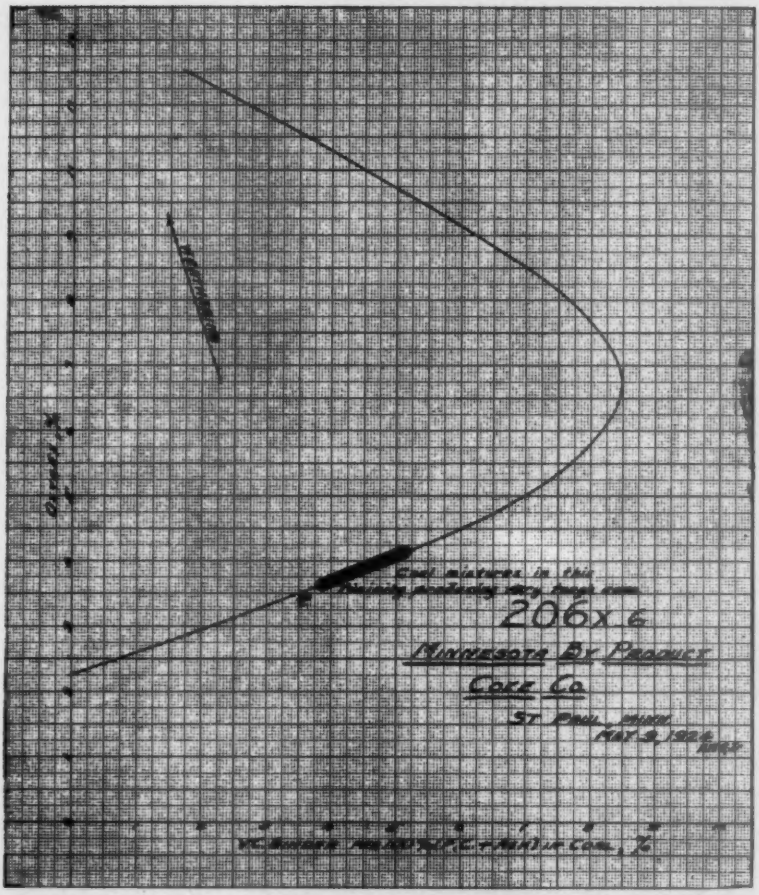

Fig. 5

C.+Ash). Conversely, those of volatile carbon contents exceeding the values indicated by the average coal curve will be the better producers of gas, while those of lesser values will render low gas yields.

From the standpoint of coke manufacture, the volatile carbon binder per 100% (F. C.+Ash) in coal is, I believe, individually the most important factor to be considered and hence I am offering a graph of this ratio plotted against the oxygen content of the coal (Figure V).

For the purpose of emphasizing the origin and approximate relative magnitude of the cementing material, I have selected at random analyses of a coal mixture, and by means of these have shown the Disposition of the Major Elements in the Original Coal before and after Carbonization (Table I). That the table fails to thoroughly check is not to be wondered at, being offered merely for the purpose of better presenting a conception.

(To Be Continued)

Associations Affiliated with A. G. A.

Canadian Gas Association
Date of Affiliation—Mar. 25, 1919.
Pres.—C. A. Jefferis, 265 Front St., E., Toronto, Ont., Canada.
Sec.-Tr.—G. W. Allen, 7 Astley Avenue, Toronto.
Conv., Toronto, Ont., Aug. 28, 29, 1924.

Empire State Gas and Electric Association
Date of Affiliation—Nov. 21, 1919.
Pres.—S. J. Magee, Associated Gas & Electric Cos., Ithaca, N. Y.
Chairman Gas Section—F. F. Ingwall, Binghamton Gas Works, Binghamton, N. Y.
Sec.—C. H. B. Chapin, Grand Central Terminal, New York, N. Y.
Annual Meeting, 1924.

Illinois Gas Association
Date of Affiliation—Mar. 19, 1919.
Pres.—J. G. Learned, Public Service Co. of Northern Illinois, Chicago, Ill.
Sec.-Tr.—R. V. Prather, 305 Illinois Mine Workers Bldg., Springfield, Ill.
Conv., 1925.

Indiana Gas Association
Date of Affiliation—April 24, 1919.
Pres.—G. M. Johnson, Northern Indiana Gas & Electric Co., South Bend, Ind.
Sec.-Tr.—E. J. Burke, Citizens Gas Co., Indianapolis, Ind.
Conv., 1925.

Iowa District Gas Association
Date of Affiliation—May 21, 1919.
Pres.—H. J. Carson, Cedar Rapids Gas Co., Cedar Rapids, Ia.
Sec.-Tr.—H. R. Sterrett, 551 Seventh St., Des Moines, Ia.
Conv., 1925.

Michigan Gas Association
Date of Affiliation—Sept. 18, 1919.
Pres.—Geo. H. Waring, Powers Theatre Bldg., Grand Rapids, Mich.
Sec.-Tr.—A. G. Schroeder, Grand Rapids Gas Light Co., Grand Rapids, Mich.
Conv., Detroit, Mich., Sept. 9, 10, 11, 1924.

Missouri Association of Public Utilities
Pres.—C. L. Proctor, Empire District Electric Co., Joplin, Mo.
Sec.-Tr.—F. D. Beardslee, 315 N. 12th St., St. Louis, Mo.
Conv., 1925.

New England Association of Gas Engineers
Date of Affiliation—Feb. 19, 1919.
Pres.—C. R. Prichard, Lowell Gas Light Co., Lowell, Mass.
Sec.-Tr.—J. L. Tudbury, 247 Essex St., Salem, Mass.
Conv., 1925.

Gas Sales Association of New England
Date of Affiliation—Oct. 1, 1919.
Gov.—J. J. Quinn, Citizens Gas Co., Quincy, Mass.
Sec.—J. H. Sumner, 719 Massachusetts Ave., Cambridge, Mass.
Annual Meeting, 1924.

New Jersey Gas Association
Date of Affiliation—April 25, 1919.
Pres.—Raymond W. Lee, Cumberland County Gas Co., Millville, N. J.
Sec.-Tr.—R. A. Koehler, Public Service Gas Co., Newark, N. J.
Conv., January, 1925.

Pacific Coast Gas Association
Date of Affiliation—Sept. 18, 1919.
Pres.—H. R. Basford, H. R. Basford Co., San Francisco, Cal.
Sec.-Tr.—W. M. Henderson, Los Angeles Gas & Electric Corp., Los Angeles, Calif.
Asst. Sec.—Clifford Johnstone, 619 Wells Fargo Bldg., San Francisco, Calif.
Conv., Santa Barbara, Cal., Sept. 15-19, 1924.

Pennsylvania Gas Association
Date of Affiliation—April 10, 1919.
Pres.—John A. Frick, Allentown-Bethlehem Gas Co., Allentown, Pa.
Sec.-Tr.—Geo. L. Cullen, Harrisburg Gas Co., Harrisburg, Pa.
Conv., 1925.

Southern Gas Association
Date of Affiliation—May 20, 1919.
Pres.—W. H. Taylor, Georgia Railway & Power Co., Atlanta, Ga.
Sec.-Tr.—J. P. Connolly, 141 Meeting St., Charleston, S. C.
Conv., Wilmington, N. C., June 9-11, 1925.

Southwestern Public Service Association
Date of Affiliation—September 26, 1923.
Pres.—G. W. Fry, West Texas Utilities Co., Abilene, Texas.
Chairman Gas Section—F. C. Armbruster, Southwestern Gas & Elec. Co., Shreveport, La.
Sec.—E. N. Willis, 403 Slaughter Bldg., Dallas, Texas.
Conv., 1925.

Wisconsin Utilities Association
Date of Affiliation—March 25, 1919.
Pres.—G. C. Neff, Wisconsin Power & Light Co., Madison, Wis.
Chairman Gas Section—I. F. Wortendyke, New Gas Light Co., Janesville, Wis.
Exec.-Sec.—J. N. Cadby, 445 Washington Bldg., Madison, Wis.
Conv., 1925.

Geographic Divisions

Eastern States Gas Conference
Date of Formation—April 11, 1923.
Pres.—P. S. Young, Public Service Gas Co., Newark, N. J.
Sec.-Tr.—R. A. Koehler, Public Service Gas Co., Newark, N. J.
Conv., April, 1925.

Employment Bureau

SERVICES REQUIRED

Wanted by a gas and electric company, young man to do office work who has had experience in ledger work, general routine work, and especially on the complaint or service desk. In reply, please give outline of experience, references and salary expected. Address:
Key No. 022.

WATER HEATER SALESMAN WANTED—A large gas company needs several good water heater salesmen to work on commission basis in Western Pennsylvania. Exceptionally good territory.
Key No. 026.

WANTED—Two experienced salesmen, to specialize on the sale of gas boilers for house heating and industrial uses, by a gas company desirous of increasing its present gas boiler load. Give details of experience and results obtained.—Address A. G. A.
Key No. 039.

APPLIANCE SALESMEN—Calling on Gas Companies to sell tank water heaters as a side line on commission basis. State territory, references and experience. Address A. G. A.
Key No. 042.

WANTED—Gas main laying foreman for gas company in vicinity of New York. Address A. G. A.
Key No. 044.

SERVICES OFFERED

WANTED—Position of responsibility as Manager or Industrial Fuel Engineer—18 years' varied experience in the gas business. References and service record furnished. Address A. G. A.
Key No. 142.

WANTED—Am open for position as general superintendent, engineer or manager of fair sized property. Fifteen years' experience in combination coal and water gas plants. Experience covers vertical and horizontal coal gas installations, also distribution work. At present am managing plant of five million sendout and have been acting in capacity of assistant engineer. Can furnish excellent credentials from present and past employers. Married. Can report with reasonable notice. Address A. G. A. Monthly.
Key No. 164.

ENG.-SUPT. of one of the largest gas plants in the country would consider change. Desires to locate with company in which opportunities for future advancement are better than in present position. Is a married man. Has technical University training. No particular preference as to location. Address A. G. A.
Key No. 159.

AVAILABLE—Man of executive ability, experienced in all phases of the gas business and sales and advertising work, including agency work on National accounts. Capable of creating, planning and following through all forms of advertising. Prefer locating in West or South Atlantic states. Minimum salary of $4,000. Address A. G. A.
Key No. 167.

WANTED—Superintendent of Distribution seeks similar position high or low pressure. 14 years' experience covering all branches of the work, office, field, and shops. Speaks and writes Spanish. Southern part of U. S. or Latin America preferred but not essential. Address A. G. A.
Key No. 169.

AM OPEN FOR A POSITION of greater responsibility. At present, manager of gas company with over 5,000 meters. Technical training, started in as cadet engineer with one of largest operating companies in U. S. Have eleven years' experience in engineering, construction, distribution and manufacturing, and over four years in commercial, new business and financial as manager. Prefer manager's position in good sized city. Age 40 years and married. Address A. G. A.
Key No. 170.

GAS ENGINEER—Eighteen years' experience in design, construction and operation of gas plants, all departments, manufacture and distribution, also electrical experience in combination plants desires position of responsibility with progressive company. Past six years chief engineer with large gas company. Address A. G. A.
Key No. 171.

EXECUTIVE, with fifteen years' experience in coke oven practice on plants manufacturing surplus gas for city consumption, desires connection with growing public utility either as executive or position leading to same. College graduate, good personality, married. Available on reasonable notice. Address A. G. A.
Key No. 172.

GAS ENGINEER—18 years' experience with 3 largest gas companies in the country, am open for engagement as gas engineer, general superintendent, manager or sales engineer. Excellent references. Address A. G. A.
Key No. 173.

ENGINEER—Twenty-one years' experience in Gas and Electric production and distribution, wishes an opening with a larger gas company or a combination gas and electric company. Eleven years with the United Gas Improvement Co. Highest reference from present connection. Address A. G. A.
Key No. 174.

WANTED—A position as General Manager or Engineer of Gas Property. Have had experience and can produce results in either large or small properties. Can give exceptional references on past record. Address A. G. A.
Key No. 175.

GAS ENGINEER, 40, with thorough training (17 years) in the gas business and real executive ability, wishes to connect up with a live concern in any capacity where technical and commercial ability will count. At present engaged, but could be available on two months' notice. Address A. G. A.
Key No. 176.

WANTED—Executive position by young man with eighteen years' (18) experience in all branches of gas business. Eight years (8) as manager. Past four years, vice-president and general manager of gas company with nearly 10,000 meters. Mechanical engineer. Expect to voluntarily place myself on the market about August 15, 1924. Will accept position as manager of company with 7,000 to 10,000 meters, or assistant manager and engineer, with larger company. Married man. Replies must be strictly confidential. Address A. G. A.
Key No. 177.

WANTED—Position as superintendent of small gas company or combination gas and electric company, or as assistant to superintendent or manager of a large plant. Technical university training. Five years' experience in maintenance and operation of steam, gas and electric plants. Address: A. G. A.
Key No. 178.

WANTED—Am open for position as appliance salesman with Gas Company or Appliance Manufacturer. Have had twelve years' experience selling ranges, water heaters, room heaters and illuminating devices. Am at present employed in this capacity by a large corporation, but desire to make a change. Can furnish references from present and past employers. Married. Can report on reasonable notice. Address A. G. A.
Key No. 179.

WANTED—Am open for a position as a salesman for a gas appliance manufacturer or as manager of a gas appliance department with a gas operating company, eighteen years' experience with mechanical and technical training. Married. Can furnish A1 references. Address A. G. A.
Key No. 180.

COKE PLANT EXECUTIVE seeks new connection. Over eight years' experience, Koppers and Solvay ovens with complete by-product recovery. University graduate, thirty-four years old, married, with one child. Fitted for Assistant Superintendent or Assistant to Manager of any coke or gas industry. Will locate anywhere. Address A. G. A.
Key No. 181.

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